20/B

HORTICULTURAL ABSTRACTS

INDEX TO

VOLUME XXVII

1957

Compiled and issued quarterly since 1931 by the

COMMONWEALTH BUREAU OF HORTICULTURE AND PLANTATION CROPS

EAST MALLING, KENT, ENGLAND

EDITOR: D. AKENHEAD, O.B.E., M.A., B.Sc.

NSP
RAM
MM

COMMONWEALTH MYCOLOGICAL INSTITUTE
-3 JAN 1958

Digitized by the Internet Archive
in 2025

https://archive.org/details/horticultural-science-abstracts_1957_27_index

INDEX OF NAMES

Horticultural Abstracts, Vol. XXVII

Abad Manrique, J. B., 66a, 181a, 576a
Abadía, A., 247
Abbott, D. C., 2341a
Abbott, J. C., 2085
Abdoh, Y., 1655a
Abe, I., 539
Abel, A. L., 3407a
Åberg, B., 3089a
Abitbol, J., 2214
Abiusso, N. G., 3675
Abraham, P., 669a, 1701a
Abrahão, J., 1786
Abramova, L. A., 1335
Ackerman, C. E., 1721
Ackerman, W. L., 3793
Ackley, C., 4006
Acosta, J. C., 3514
Acosta y Lara, G., 1695
Adams, D. F., 1730, 2013, 2014
Adamson, R. M., 1377, 1378
Addis, I. S., 582
Addy, S. K., 372
Adeni, M. K., 1594
van Adrichem, M. C. J., 186
Adsuar, J., 576b, 1782y, 1937, 3664u
Adyanthaya, N. R., 2985
Aebi, H., 1306
Aerts, —., 1285
Afanasiev, M. M., 3337a
Agafonova, A. F., 3075
Agarwala, S. C., 1452
Agati, J. A., 636
Aggarwal, J. S., 2671u
van Aggelen, J., 1084a, 1084r
Aglibut, A. P., 593
Agrawal, J. S., 2556a, 3604a
Agricultural Improvement Council for England and Wales, 1979
de Aguirre, J. M., Jr., 3968
Agulhon, R., 3337b
Agulova, V. K., 1211
Ahmadi, A. A., 1482
Ahmed, M. B., 1245
Aiazzi-Mancini, M., 838a
Aichele, H., 1257
Aida, H., 1585a
Ajdinjan, R. H., 2967
Ajzenštat, Ja. S., 2502
Akamine, E. K., 3889, 3890
Aki, S., 1043, 1511
Aksu, S., 2615a
Alban, E. K., 1408
Alberta Department of Agriculture, 1980
Albuquerque, S. D. S., 3924
Alderfer, R. B., 3233
Aldrich, D. G., 2779
Aldrich, F. D., 3089b
Aldrich, R. J., 1409
Aldridge, W. N., 3422
Alers Alers, S., 2913, 3966
Alexander, D. M., 2217
Alexander, P. M., 2760
Ali, K. T., 1862a
Alindada, R. C., 753
Ali-zade, M. A., 3984
Alkmaar, Proefstation voor de Groenteteelt in de Volle Grond in Nederland, 3409
Allan, W., 1985
Allen, E. F., 841
Allen, F. C., 3397
Allen, G. R., 1012, 2084
Allen, H. P., 366
Allerton, F. W., 2556b, 3738
Alley, C. J., 3219
Allison, R. V., 1701o
de Almeida Leme, H., 1959a
Almgren, K., 1183
Almindelig Dansk Gartnerforening, 3012
Altman, J., 1710
Alvarez L., E., 3605e
Alvarez Martín, M. de los D., 669k
Alvarez, R., 3964
Alvey, N. G., 705
Alyamova, V. A., 346a
Amann, F., 3378
Amateur Gardening 2008b, 2008c, 4029a
American Society for Horticulture Science, Committee on Vegetable Breeding and Varieties, 395
American Vegetable Grower, 2556c
Amici Fabricatore, J., 3815a
Amling, H., 1146
Amphoux, M., 3337b
Amsterdam, Royal Tropical Institute, 3021, 3024g
Anagnostopoulos, P. T., 819
Analytical Methods Committee, 2671a
Anantanarayanan, K. P., 3994
Ananthanarayanan, K. K., 3123
Andersen, A. L., 467
Andersen, P. E., 2087a
Anderson, A. W., 3815b
Anderson, D. M. W., 1923
Anderson, E. J., 1916
Anderson, H. W., 953
Anderson, L. C., 146
Andeweg, J. M., 576c, 2556d, 2556e
Andison, H., 2341b
Andrade, A. C., 803, 852, 1959b, 2827b
André, É., 3712a
Andrews, A. C., 1701b
Andrews, F. S., 1966
Andrews, F. W., 954
Andrews, P., 180
Andrews, W. B., 1084b
Angell, H. R., 1299, 3651
d'Angremond, A., 3954
Anisimov, A. A., 3466
Anjou, K., 2098, 2259
Anon., 10, 58, 66b, 207, 241a, 259, 346b, 348, 412, 515, 534, 576d, 601, 617a, 820, 838b, 882, 931, 950a, 950b, 1004, 1070, 1074, 1084c, 1084d, 1108, 1136, 1186, 1187a, 1228, 1235, 1251, 1382, 1387, 1396, 1403, 1555, 1585b, 1612, 1637, 1658, 1766, 1781, 1899, 1943, 1959c, 1959d, 1959e, 2182a, 2209, 2341c, 2380a, 2556f, 2556g, 2556h, 2691, 2856, 2924, 2927, 2950, 2984, 2993a, 2993b, 2993c, 2993d, 3175, 3189a, 3189b, 3244, 3362, 3673, 3815c, 3953, 3996a
Antcliff, A. J., 223, 2221, 3224
Antipov, V. G., 2752
Antoine, R., 2949, 3976
Antongiovanni, E., 2341d, 3886
Antunes (Filho), H., 2865
Aoki, N., 2114
Aono, H., 937, 3985

Apon, C., 617i, 2561
Appaji Rao, N., 2026
Appel, O., 976
Applegate, H. G., 2013
Appleton, A. A., 388
Aquilizan, F. A., 2570
Aragaki, M., 2704
Aramayo, H. S., 1187q
Arango Acero, J., 3911
Arango B., H., 2993e
Aref, H., 813
Arena, M., 2817
Argentina, 4029b
Ark, P. A., 1433, 1468, 3469, 3779
Arland, A., 3998
Arle, H. F., 390a
Armsby, W. A., 3393
Armstrong, W. W., 769, 808
Armstrong, W. W., Jr., 3843
Army, T. J., 499, 2474
Arnaldo, S. R., 2871, 3995
Arndt, F., 3384
Arney, S. E., 3205
Arnold, E. H., 1393
Aronoff, S., 404, 1627
Arroyo, J. E., 3827
de Arruda, H. V., 3939
Artamonov, N. V., 1219
Artaza, C. A., 3996b
Artem'ev, G. V., 400, 1419
Artjušenko, Z. T., 695
Arvidsson, L., 4
Arzolla, J. P., 3940
Asahira, T., 701
Asano, H., 1510
Asen, S., 3716, 3800
Asenjo, C. F., 3991
Ashby, E., 1028
Ashcroft, R. T., 459, 2776
Ashizawa, M., 1043
Ashmawi, H., 813
Ashton, F. M., 921
Ashton, T., 974
Ashwin, P. M., 3089c
Askew, H. O., 1680, 2645, 2646, 2652, 3660
Asmaev, P. G., 2612
Asociación Peruana de Ingenieros Agrónomos, 981
Asquith, D., 2318
Asselbergs, E. A., 159
Astrego, J. J., 1782a
Aten, A., 3887
Athenstädt, H., 256, 2111
Atkin, J. D., 2470
Atkins, A. L., Jr., 2801
Atkinson, J. D., 2253, 3337g
Attoe, O. J., 1615
Audia, W. V., 31, 1084t, 2035
Audus, L. J., 978, 2048, 3048
Austin, G. D., 3986
Austin, M. D., 314, 2297, 2341e
Australia, Commonwealth Dried Fruits Control Board, 2008e
Australia, Commonwealth Scientific and Industrial Research Organization, 68, 227, 578, 985
Australian Canned Fruits Board, 2008d
Australian Wine Board, 2008f
d'Auzac, J., 950h
Åvall, H., 2385, 2557c, 3427, 3515, 3604s
Avent, K. L., 3116
Avery, G. S., Jr., 3089d
Avidov, Z., 1581
Avocado Variety Committee, 1787
Avramenko, V. Ja., 2615b
Avramov, L., 232
Avron, M., 1084e
Avundžjan, Ê. S., 14
Awada, M., 1854
Awatramani, N. A., 587
Ayers, T. T., 2457
Ayres, A. S., 3971
Azzi, G., 1084f

Bac, S. M., 108
Bacchi, O., 3926
Baccolo, S., 326
Bachelder, S., 1710
Bachmann, E., 3577
Bachmanowa, S., 1441
Bachy, A., 1909
Badanova, K. A., 3080
Baebler, S., 1648
Báez, J. R., 3106, 3818
Baggiolini, M., 1344, 3318
Bagley, J. M., 1084g
Bailey, G. F., 3871
Bailey, L. F., 3165
Bain, J. M., 174
Baines, R. C., 838c, 1825, 2806, 2807
Baird, J. V., 2632
Bajwa, B. S., 2885, 2993f
Bakarcic, M., 3274, 3337h, 3597
Baker, B. E., 3604q
Baker, K. F., 1706, 1748
Baker, R., 2689
Bakshi, J. C., 2885, 2993f
Bakthavathsalu, C. M., 2838
Bal, S. N., 1701c, 2671o
Balakrishna, N., 2985
Balakrishnan, S., 3846
Balakrishnan, V. K., 2671b
Bald, J. G., 702, 3760
Baldacci, E., 2556i, 3291
Baldassari, T., 116, 3246
Baldini, E., 77, 82, 1100, 1187b, 3221, 3845, 3877, 3878
Balevski, A., 1339
Bali, P. N., 2762a
Ball, C. D., 1628, 2615k
Ball, E., 742a
Ballatore, G. P., 450
Banaag, A. F., 2606
Bancroft, J. B., 2615c
Bandurski, R. S., 1040
Banerjee, A. K., 669b
Banerjee, S. N., 1583
Banes, D., 3712b
Banfi, A., 1804, 1862b, 1862c, 1862d, 3829
Banga, O., 495, 1585c, 2556j, 2556k, 3001
Banham, F. L., 2400
Baptist, B. A., 943
Baptist, N. G., 1959f
Barák, K., 3529
Barbados, B.W.I. Central Sugar Cane Breeding Station, 907
Barbados Department of Science and Agriculture, 4013
Barber, G. A., 441
Barber, H. N., 3480
Barberá Gayoso, C., 3330
Barbesino, M., 2133
Barbier, M., 1391
Baresi, F., 2684
Bargioni, G., 3189c
Barham, W. S., 445, 3583
Barker, J. S., 317
Barlow, H. W. B., 3004
Barmington, R. D., 2087n
Barnes, D., 1505
Barnes, M. M., 2338
Barnes, W. C., 1585d
Barnhart, D., 742x
Barr, H. E., 3335
Barrat, J. G., 254
Barrau, J., 947, 2829
Barreto Domínguez, R., 1959g
Barrett, H. C., 241b
Barrett, R. E., 2613
Barrie, A. G., 3975
Barriga O., R., 3942
Barrons, K. C., 360
Barros, O., 2448
Barrows, H. L., 66c, 2825, 3891
Bartels, W., 3650
Bártfay, J., 3430
Bartolome, R., 950c
Barton, L. V., 111, 1058, 3059
Barua, D. N., 936, 2976
Barua, P. K., 2958
Baruah, H. K., 951h, 1954, 2986, 3992
Basan'ko, A. A., 1216
Bassett, D. M., 3604b
Basteleus, R., 1704
Bastia, C. M., 742b
Basu, A. N., 1583

Basu, S., 847
Bate-Smith, E. C., 1084h
Bates, C. G., 3790
Bates, T. E., 3664a
Bates, W. N., 1962
Bauckmann, M., 2315
Baudewijn, J., 1110, 1161
Baumann, E., 2088a
Baumann, H., 2006
Bausá Alcalde, M., 2593
Bavappa, K. V. A., 1953
van Bavel, C. H. M., 1607, 2588, 2589
Baver, L. D., 2993g
Bawden, F. C., 3645, 3646
Baxter, P., 2243
Bazzigher, G., 3295
Beach, W. S., 3768
Beakbane, A. B., 94, 3113
Beal, J. M., 461
Bean, G., 1075, 2068, 3089e
Bean, R. C., 1796, 3870
Beard, F. H., 648
Beatty, R. H., 390b
Beauchamp, C., 3647
Beaufils, E. R., 902, 2920, 4004
Beaumont, A., 955
Beaumont, J. H., 876
Beavens, E. A., 3875
Becerra Z., C., 3996c
Beck, G. E., 3729, 3804, 3815d
Beck, W. R., 1790
Becker, G., 982, 1585e, 2240a
Becker, R. F., 1272
Beecher, F. S., 447
Beeftink, W. G., 141, 2055
Beevers, H., 1031, 2662
Behrens, W. U., 2087b
Beingessner, H. F., 3189d
Beke, F., 632
Belalcazar G., J. A., 1746
Belanger, J. A., 2615d
Belavin, Ju. A., 133
Belik, V. F., 3459
Beljaev, N. V., 3562
Bell, —., 1257
Bell, H. K., 252
Bell, H. P., 2188
Bell, L. N., 66d
Bellartz, S., 1714
Bellini, P., 1413a
Belohonov, I. V., 1256
Beñatena, H. N., 1804, 1862d, 3825
Benavides Gómez, M., 1401, 2373, 3996d
Benazouz, O., 3815j
Benberg, O., 241c
Bendall, D. S., 1782b
Benedict, H. M., 7, 3033
Benedict, R. A., 2473
Benemerito, A. N., 838d
Beneš, V., 2465
Bennet-Clark, T. A., 978
Bennett, L. G., 2011, 2087c, 3086, 3089f
Bennett, M., 2273
Bennett, R. R., 2576, 2615e
Bennetts, H. W., 963
Bensa, S., 742c
Benson, L. C., 3210
Benson, N. R., 3232
Bental, A., 3893b
Bentley, L. E., 2127
Beraha, L., 2283, 2809
Beran, F., 1362
Berberich, R. S., 3240o
Bérczy, L., 2873
Berendej, A. E., 2196
Berényi, D., 2207
Berg, W., 576e, 3457
Berger, P., 1655b
Berkan, H., 2240b
Berkenkamp, B. B., 3544
Bermuda Department of Agriculture, 2008g
Bernardo, F. A., 635, 2671c
Berner, R. A., 3090s
Berninger, L. M., 3815d
Bernon, G., 1229, 1243
Bernstein, L., 460, 2117
Bernstein, Z., 2222
Berrie, G. M., 384
Berrill, F. W., 850, 1871
Berton, A., 2671d
Bertossi, F., 2329, 2341 l
Berzin, A., 1097
Besemer, A. F. H., 1435, 2462, 2533, 2485
Bess, H. A., 2732
Best, R. B., 2240c
Best, R. H., 1
Best, R. J., 1371a
Bestagno, G., 1717
Bestagno Biga, M. L., 2735
Bethune, J. L., 2648
Betrabet, S. M., 2637
Better Crops with Plant Food, 3418
Betto, E., 3291
Beutel, J. A., 1791
Bevan, W. J., 1459
Bewley, W. F., 2087d
Beyers, E., 4004
Bhagavan, H. N., 950d
Bhagchandani, P. M., 1541
Bhan, K. C., 2836
Bhat, N. R., 587, 617b, 3664b, 3664q
Bhattacharji, S., 2620, 2671e
Biale, J. B., 3802, 3890
Białobok, S., 66e, 742d
Bianchi, H., 3320
Bianchini, C. A., 3943
Bibby, F. F., 3543
Bickley, W. E., 568
Bienaymé, A., 665
Bieske, G. C., 1959h
Bilquez, N., 3548
Bimantoro, R. R., 742n
Binaghi, G., 1656
Bindra, O. S., 507
Bingham, F. T., 760, 1791, 2779
de Bioxo, —., 199
Birchfield, W., 1862m, 2341f
Bird, I. F., 98
Birdsall, J. J., 3423
Birk, L. A., 1373
Biron, R. A., 1655g
Bishop, J. C., 2099
Bishop, L. R., 3694
Biswas, B. B., 3065
Biswas, N. R. D., 3892h
Bitancourt, A. A., 1892, 2882, 2883
Bitters, W. P., 3839
Bjallovič, Ju. P., 3081
Black, D. T., 407, 3589
Black, S., 1782d
Blackett, R. D., 2362, 3391
Blackhurst, H. T., 182
Blackman, G. E., 3004, 3407b, 3478
Blagoveščenskij, V. V., 3604c
Blaha, J., 222
Blaim, K., 1693
Blair, D. S., 105, 3093, 3094, 3189d
Blanchet, R., 2341g
Blandy, R. V., 3371
Blank, H. G., 165
Blankwaardt, H. F. H., 742e
Blanpied, G. D., 173, 1164
Blinn, R. C., 2338, 3892q
Bliss, C. I., 1371c
Blodgett, E. C., 3247, 3282
Blommaert, K. L. J., 3160
Blommers, J., 2240d
Blondel, L., 3892a
Blunck, H., 2996
Boawn, L. C., 2440
Bobula, P. F., 3357, 3359, 3810
Bocanegra Salazar, S., 576f, 1473
Boccanera, G., 822
Bocchi, A., 1055, 1674, 2087e
Bock, K. R., 2876
Bócsa, I., 632
Boek, K., 1265
Boelema, B. H., 557
Bogdańska, H., 1190
Bogdański, K., 1190
Bogun, S. S., 3258
Bohart, G. E., 491
Bohl, C., 2182b
Böhm, O., 730, 1585f
Böhme, E., 2623
Bohn, G. W., 1585g, 1586j, 3460
Böhnert, E., 2737
Böhning, R. H., 1027, 3041

Bois, E., 685
Bojarkin, A. N., 1084i
Bokučava, M. A., 2993h
Bolay, A., 1306, 2341h
Boll, P. M., 660
Bollaerts, D., 346d
Bollard, E. G., 11, 1252, 2164
Bolle-Jones, E. W., 1866, 2921, 2922, 2923, 3955
Bollen, W. B., 2062
Bologov, B. V., 2341i
Bolotskij, Ju. S., 1104
Bolsunov, I., 3606, 3664c
Bolton, A. T., 1371d
Bolzani, P., 1135
Bömeke, H., 2087f
Bond, G., 2667
Bond, H. W., 3712p
Bonga, J. M., 2058
Bonnemaison, L., 2711
Bonner, J., 978
Bonnet, J. A., 914
Bonnet, P., 1862f
Boom, B. K., 3788
van der Boon, J., 1088
Boosalis, M. G., 469
Booth, C. O., 1963
Booth, E., 1700
Booth, V. H., 3524, 3815e
Boots Pure Drug Company Ltd., 1319
Bopp, M., 2762b
Bordeleau, R., 352
Borden, A. D., 1360
Borg, Å., 3425, 3534
Borget, M., 3934
Borisov, G., 2629
Borisova, N. A., 2671f
Bormann, F. H., 42, 3043
Bornemisza, E., 3941
Börner, C., 2996
Borthwick, H. A., 1495, 1759, 3814
Borzini, G., 2327, 2762c
Bosch, E., 1132, 1133
Bose, B. C., 2615f, 3630, 3631
Bosher, J. E., 186, 1311, 2322
Bosian, G., 1215
Bošković, M., 275
Boss, M., 2774
Bossard, R., 1782e
Botham, J. R., 838e, 1838
Bothner-By, A. A., 3629
Bottelier, H. P., 29, 30
Botting, G. W., 3144
Bouat, A., 4004
Boubals, D., 2294, 3240a
Boucher, M., 1959o
Bouhelier, R., 2411
Boulanger, L. W., 3296
Bould, C., 3022, 4004
Bourgin, C., 1588, 3620
Bouscary, A., 742f
Bouse, F., 3704
Boush, G. M., 2308
Bovay, E., 214, 1248
Bovey, R., 1585h, 1655c, 2526
Bowen, H. J. M., 3037
Bowen, T. J., 250, 2261
Bowers, A., 1701f
Bowers, F. A., 671
Bowers, H., 3404
Bowman, F. T., 1086, 1187c, 2997
Bowman, J. S., 2397
Box, H. E., 2954
Boyce, A. M., 1862g
Boyle, J. S., 2527, 3584
Boyle, W. W., 1769
Boynton, D., 142, 146
Braak, J. P., 50, 492
Brabec, S., 93
Bracey, P., 3341
Braconi, L., 825
Bradfield, E. G., 2087g
Bradford, G. R., 2019
Bradley, C. E., 2671g
Bradley, D. E., 3089g
Bradley, M. V., 92, 3162
Bradley, R. H. E., 3649
Braeckman, P., 2671h
Bragina, K. K., 2698
Branas, J., 1243, 2208
Brancker, A. V., 5
van den Brande, J., 1726
Brandt, M. W., 2171
Brannon, D. H., 1371e
Brants, D. H., 2484
Branzanti, E. C., 1187d, 1213, 2341j
Brase, K. D., 346j, 2182c, 3189e
Brasher, E. P., 415
Brauer, A., 3202
Braun, A. J., 2342q
Braun, H., 3999
Breakey, W. J., 2365
Breakiron, P. L., 2429
Breazeale, E. L., 143
Breece, J. R., 1269
Breider, H., 213
Brekke, J. E., 449, 1203, 1348
Bremer, A. H., 394
Bremer, H., 1440
Brenna, H. K., 2412
Brennan, E., 1566
Bressler, R. G., 1166
Brett, C. H., 470
Brett, P. G. C., 3961
Breviglieri, N., 116, 1212
Brewbaker, J. L., 2640, 2672i
Brian, P. W., 1046, 3050, 3337c
Brichet, J., 838f
Brierley, P., 738, 2762d, 3815f
Briggs, J. B., 2305, 2341k
Brill, A. P., 2108
Brimblecombe, A. R., 950e
Bringhurst, R. S., 838g
Brion, L., 2881
Briski, B., 1585n
Britikov, E. A., 1084j
British Columbia Department of Agriculture, 1981
British Drug Houses, 2087h
British Honduras Agricultural Department, 3024a
British West Indies Sugar Association, 906
Britt, C. S., 3622
Brittain, E. G., 1085i
Brittingham, W. H., 3089j
Britton, D. M., 1189, 2193, 2240v
Broadbent, L., 1964
Broatch, J. D., 2993i
Brock, A. M., 1346
Brockwell, J., 1744
Broekmans, A. F. M., 2899, 2903, 2907
Broertjes, C., 2762e
Broeshart, H., 891, 3950, 4004
Bronštejn, I. I., 2076
Brook, P. J., 561
Brooklyn Botanic Garden, 3079
Brooks, R. M., 2092, 3101
Brouwer, R., 2032, 2033
Browicz, K., 742g
Brown, D. S., 3128, 3129
Brown, E. G., 1701d
Brown, J. G., 2021, 2139
Brown, J. W., 2117
Brown, M. S., 191
Brown, O. A., 2079
Brown, R. T., 835, 3594
Brown, S. W., 2762f
Brownbridge, M. E., 2048, 3048
Browne, F. S., 380
Browning, H. A., 3563
Broyer, T. C., 66f, 547, 2516, 3576
Brubaker, R. W., 470
Brückbauer, H., 1274, 1371f
van den Bruel, W. E., 346d, 1351
Bruinsma, F., 2464
Bruni, B., 241d, 2240e, 2240f
Bruns, V. F., 1400
Brunskill, R. T., 3407j
Brusca, J. N., 1814, 1815
de Bruyn, J. W., 1665, 1666
Bryden, J. W., 2693
Bucher, R., 3089w
Buchholz, W., 2087i
Buchloh, G., 1176
Buchta, V., 181b
Buck, P. A., 1585i
Bucklew, L. L., 1959i
Bugała, W., 742g, 742h
Bugiani, A., 2822
Buhler, D. R., 1177

Buishand, T., 2430, 3474
Bujanov, M. F., 1120
Bukovac, M. J., 2034, 3054
Bukovac, P., 1655d
Bulard, C., 3551
Bulit, J., 3337d, 3337z
Bull, R. A., 893, 1907, 1908, 2906, 2910
Bullock, R. M., 3232, 3407c
Bu'Lock, J. D., 1701e
Bünning, E., 3004
Bunt, A. C., 66g
Burckhardt, H., 1257
Burdick, E. M., 1084k
Burdine, H. W., 1458
Burg, J. P. L. L. A., 2671i
Burger, J. J., 787
Burgess, A. H., 3691
Bürgi, A., 1187e
Burgis, D. S., 1434, 2396, 2471
Burke, D. W., 2451, 3494, 3495
Burke, J. H., 744, 838h
Burkholder, C. L., 181c
Burleson, C. A., 3526
Burnaeva, N. L., 772
Burnside, C. A., 1027, 3041
Buron, P., 3136
Burr, G. O., 3960
Burr, H. S., 1035
Burrell, A. B., 142, 3091
Burroughs, L. F., 1156
Burrows, L. F., 3189f
Burt, E. O., 2363
Busch, J., 874
Busch, W., 2182d
Bush, R. G. W., 979
Bush, W. J., and Co., 3022
Bussmann, A., 2020
Bustrillos, A. D., 3997e
Butijn, J., 1088, 1143
Butler, C. G., 65
Butler, E. E., 3596
Butterfield, N. W., 1029, 1782f
Butters, R. E., 538
Büttner, G., 1056
Butzler, G. J., 1862h
Buxbaum, W., 1217
Buxton, E. W., 3499
Buxton, J. S., 3451
Buzacott, J. H., 922
Buzin, N. P., 2240g
Buzzell, A., 617c
Byass, J. B., 345
Byerrum, R. U., 1628, 2615k
Bylterud, A., 3360
Byrde, R. J. W., 904
Byrom, M. H., 3683

Cabal Concha, A., 2993j
Cabalov, R. G., 1106
Cabo Torres, J., 669c, 669d, 669e, 670f
Cabrera, T. E., 634
Cadahia, J. R., 3699
Caeser, W., 3604d
Cahoon, G. A., 838i, 839m, 3892b
Cain, J. C., 181d, 843, 4004
Cain, R. F., 1197
Çaiyod, D. T., 749
Cajlahjan, M. H., 1049, 2772
Calavan, E. C., 1862i, 2785, 3337e
Calderón, J. R., 3997h
Caldwell, J., 171
Calhoun, B., 3502
California Agriculture, 2067
California Department of Agriculture, 983
California, University of, 3471, 3545
Callaghan, J. J., 36
Callahan, K. L., 2341m
Calle V., H., 2994 l
Calmejane, F., 3815g
Calton, W. E., 3896
Calvert, A., 1550
Calvert, J., 1629, 1630
Calvin, L.D., 2287
Camargo, L. de S., 3604e
Cameron, H. R., 1371x
Cameron, J. W., 1799
Camp, A. F., 839k, 844
Campaignolle, J., 3996e
Campbell, A. H., 2332
Campbell, A. I., 3248, 3352
Campbell, D. B., 2938
Campbell, F. J., 3737
Campbell, J. A., 576g
Campbell, J. D., 66 l
Campbell, J. G., 2008b
Campbell, J. S., 2926
Campbell, L., 1283
Campbell, R. C., 3161
Campbell, R. E., 1582
del Campillo, A., 3991
del Campo, E., 838j, 1857, 1862j
Canada Department of Agriculture, 3, 2054, 3013, 4029c, 4029d
Canada, Minister of Agriculture, 1982
Candela, M. I., 3578
Canevascini, V., 2526
Cann, H. J., 1959j
Canniello, A. R., 2328
Cannon, T. F., 3815h
Canova, A., 505, 2525, 3085
Cant, R. R., 3240b
Caplin, S. M., 2050
Capó, B. G., 908, 1928, 3997m
Cappelletti, C., 1030, 1084 l
Caprio, J. M., 764
Capucci, C., 2341n, 3150
Carañgal, A. R., Jr., 638, 669f, 950f, 950g, 2641, 2871, 3995
Carañgal, V. R., 2641
Carden, P. W., 655, 2463
Cardeñosa Barriga, R., 2448, 3914
Cardona Álvarez, C., 2556 l
Caridad Igelmo, J. M., 1655e
Carleton, W. M., 383
Carlotti, G., 279
Carlson, A. E., 387
Carlson, E. C., 1360, 1520, 2492
Carlson, R. F., 1386, 1774
Carman, G. E., 791
Carncross, J. W., 512, 3552
Carnes, J. L., 2686, 2763m
Carnewal, J., 1919
Carolin, R. C., 3815i
Carolus, R. L., 453, 3452
Caroselli, N E., 2757
Carpena, O., 2827c, 3844
Carpenter, K., 3398
Carpenter, W. J., 721, 739, 3714
Carpentier, L. J., 1010
Carra, P., 1782g, 2673, 2740, 3815j
Carrante, V., 3879
Carrera, C. J. M., 3273
Carreras Matas, L., 669q
Carroll, M. F., 2626
Carroll, V. J., 2473
Carson, N. A., 3712c
Carter, G. H., 343, 3189x
Carter, O. G., 1481
Carter, W., 1915
Cartledge, E. G., 1681
Cartwright, R. A., 946
Cartwright, T. E., 1655f
Carvalho, A., 2861, 3947
Casarini, B., 296, 2341v, 2718
Casas Lajonchere, F. R., 3664d
Casida, J. E., 2397
Casilli, O., 346e
Caso, O., 3406, 3701, 3702, 3712v
Castaño A., J. J., 1895, 2875, 2879, 2880
Castel-branco, A. J. F., 1886
Castellani, E., 2282, 2554, 2663
Castillo, B. S., 636
Castorina, S., 2827d, 3892c
Catambay, A. M., 638, 950f
Cathey, H. M., 735, 3735, 3764
Cavalloro, R., 612
Cavazza, L., 480, 1057, 1538
Cave, M. S., 2762f
Cavia, C. E., 3509
Cawthron Institute, N.Z., 1983, 2643
Cegłowski, S., 1131
Cejtlin, M. G., 221
Celestre, M. R., 3217
Celino, M. S., 2671j
Cendaña, S. M., 782

Centre de Coopération pour les Recherches scientifiques relatives au Tabac (CORESTA), 1590
Ceponis, M. J., 3188
Cercós, A. P., 3328
Cercvadze, —., 3236
Čereeva, S. N., 3432
Česnokov, V. A., 403, 527
Ceylon Coconut Research Board and Institute, 3923
Ceylon, Director of Agriculture, 984
Ceylon Tea Research Institute, 2961, 3986
Chabannes, J., 3243
Chacravarti, A. S., 923, 2942
Chaffard, M., 1406
Chakrabarty, M. M., 2660
Chaland, E., 838k
Chamberlain, E. E., 2253
Chamberlin, F. S., 2615o
Chamblee, D. S., 3815t
Chan, A. P., 3763
Chanasyk, V., 346f
Chancellor, R. J., 3339
Chandler, P. A., 3760, 3803
Chandler, S. C., 3337x
Chandler, W. H., 2998
Chandnani, J. J., 2582
Chandra, V., 624, 2625
Chandramohan, J., 2555
Chant, D. A., 2341o
Chao, C. K., 2931
Chao, T.-T., 2940
Chapas, L. C., 1907, 1908
Chaplin, J. F., 2563
Chapman, H. D., 759
Chapman, H. W., 66h
Chapman, P. J., 312
Chapman, R. A., 2615g
Chapman, R. K., 3423
Chapot, H., 838 l
Chappell, W. E., 376, 1381
Chaput, A., 1651, 3664v
Charavanapavan, C., 896
Chardenon, J., 1771
Charles, F. R., 2380b
Charpentier, L. J., 927
Chase, F. E., 2162
Chase, J. L. H., 956
Chater, G. P., 653
Chattopadhaya, S. K., 2508
Chaturvedi, M. D., 1782h
Chaudhary, S. A., 1437
Chaudhary, S. S., 3712d
Chaudhri, S. A., 3848
Chauvin, R., 2656
Chavan, V. M., 2556m
Chavanier, G., 2827e
Chaverri, G., 3941
Cheema, G. S., 742i
Chen, C.-T., 1947
Chen, K. H., 853
Cheney, P. W., 1268
Cheng, C. F., 2931
Cheng, S-Y., 952b
Cherubini, C., 2204
Chessin, M., 1632
Chevaugeon, J., 3996f
Chhonkar, V. S., 2694
Chiappini, M., 2762g
Chiarugi, A., 1084 l, 1782i
Chichester, C. O., 67i
Chilcote, D. O., 3405
Child, R., 1959k
Childers, N. F., 251, 252, 3149
Childs, J. F. L., 1862k, 2827f
Chilton, S. J. P., 2941, 2947
Ching, F., 718
Ching, T.-M. T., 1040
Chinloy, T., 2925, 2951, 2953
Chippindale, H. G., 649
Chisholm, M. J., 2664
Chittenden, A. E., 666
Chittenden, E., 145
Chkolnik, M. J., 4004
Chmelir, I. C., 3232
Chona, B. L., 2993k
Chopinet, R., 1750
Chouard, P., 3684
Chouteau, J., 2574, 3614, 3619
Chowdhury, S., 3686
Christensen, M., 2270
Christie, J. R., 1371j
Christie, T., 1683
Christman, D. R., 3629
Christopher, E. P., 181t, 2189, 3193
Chroboczek, E., 1470
Ciampi, C., 2818
Ciampolini, M., 2300
Ciaravellini, L., 3892d
Ciarimboli, U., 1240u
Cibes, H. R., 3364, 3937, 3990
Ciccarone, A., 821, 1275, 1835
Ciferri, R., 595, 1639, 2275, 2329, 2330, 2341 l, 2716
Čikalov, P. M., 722
Cittadini, J. C., 3189g
Clark, D. S., 1160
Clark, F., 589
Clark, J. E., 66s
Clark, J. M., 3087
Clark, P. J., 344, 3335
Clarkson, V. A., 3465
Clausen, C. P., 346g
Clauss, B., 678
Claypool, L. L., 2182e, 3260
Clayton, E. E., 584
Clemente, L. J., 3557
Clore, W. J., 1400, 3235, 3815k
Clos, E. C., 572
Cloutier, B., 742j
Clutter, M. E., 3556
Cobin, M., 2827g
Cobley, L. S., 957
Cochran, L. C., 3264, 3337e
Cocker, J. D., 1701f
Cockerham, K. L., 1959q
Coconut Research Institute, Ceylon, 861
Code, W. E., 3089h
Coe, D. M., 1572
Coe, R. R., 3089q
Coffee Research Station, Ruiru, 1889
Coggeshall, R. G., 2754
Cognard, A., 2993 l
Cohan, M. S., 3868
Cohen, G., 742k
Cohen, M., 1014, 1832
Cohoon, D. F., 288, 3283
Coic, Y., 3642
Cokkanna, N. G., 2995q
Coleman, R. G., 2519
Coles, C. H., 2024
Coles, G. V., 904
Colgrove, M. S., Jr., 3811
Coll, E. E., 950r, 3996r
Collado Montes, M., 3699
Collins, J. C., 2559
Collins, R. P., 2538
Collins, W. B., 351
Collins, W. E., 1579
Collyer, E., 346h
Collyer, J. E., 1446
Colmer, A. R., 2350
Colonial Pesticides Research Unit, 3014
Colonial Research Council, 4015
Comar, C. L., 958
The Commercial Grower, 1003a, 1068, 2075
Committee of Vegetable Breeding, 3410
Committee on Horticultural Marketing, 2083
Commonwealth Economic Committee, 662, 840, 1984, 3712e
Commonwealth Scientific and Industrial Research Organization, Australia, see C.S.I.R.O.
Comuzzi, A., 241i, 241j, 303, 3240c
Conagin, A., 3925
Condit, I. J., 1091
Conev, D. T., 2556n
Connecticut Agricultural Experiment Station, Storrs, 1003b
Conover, R. A., 1572, 2426, 2452
Conroy, R. J., 3468
Constable, D. H., 903, 1959 l
Converse, R. H., 304, 1302
Conway, E., 3350
Conway, T., 3189h
Cooil, B. J., 1854

Cook, J., 4029q
Cook, J. A., 2216, 3228
Cook, R. L., 456
Cooke, A. R., 2038
Cooke, C. H., 1782j
Cooke, F. C., 869
Cooke, G. W., 1516
Cooke, R. E., 812
Coombe, B. G., 3227
Coombe, J., 51
Cooper, A. J., 690
Cooper, C. M., 1862 l
Cooper, G. R., 3089i, 3539, 3572
Cooper, H. P., 422
Cooper, St. G. C., 3892e
Cooper, W. C., 3817, 3831, 3841, 3849, 3892f
Coote, G. G., 807
Cope, F. W., 1013
Copet, A., 945
Coppock, G. E., 3704
Corbett, M. K., 2762h
Córdoba, O. G., 1169, 3168
Corke, A. T. K., 285
Cornell University Agricultural Experiment Station, 4029e
Cornillie, E., 3815 l
Corns, J. B., 3892g
Cornwell, P. B., 2841
Coronado P., R., 1327
Corrà, F., 1184
Corrales Macedo, A., 540, 2539, 2551
Corrêa de Arruda, H., 3996g
Correll, F. E., 131
Corte, A., 2275, 2329, 3815m
Cortès, V., 1649
Corti, R., 1701g
Cory, E. N., 3722
Cosmo, I., 235, 241e, 241f, 241g, 241h, 241i, 241j, 270, 295, 300, 1240a, 1347, 2240h, 2240i, 2330, 3240c, 3240d
Costa, A. S., 2874
Costa, J. J., 3273
Costantino, G., 838m, 2827h, 3862
Coste, —., 2673
Coste, A., 771
Coste, R., 3996h
Costes, C., 3642
Cota Galan, R., 1626
Coulson, J. G., 426
Coulter, L. L., 360
Coupland, R. T., 2344
de Cournuaud, R., 2615h
Coursen, B. W., 2547
Couto, F. A. A., 2374, 3519
Coveney, R. D., 1661, 3680
Cowgill, W. H., 1959m
Cowley, R. W. I., 1087
Cox, E. H. M., 959
Cox, J. A., 1240b
Cox, P. A., 959
Cox, R. S., 434, 562, 2410, 2473, 2532, 2553, 3541
C.P.V. Experiment Station, Indonesia, 1989
Crafts, A. S., 390c, 2087z, 3343
Craig, D. L., 3240e
Crall, J. M., 2363
Cramer, P. J. S., 2993m
Crandall, P. C., 1187f
Crane, H. L., 2230, 2232, 2240j, 2241a
Crane, J. C., 92, 128, 1119, 2139, 2140, 2182f, 3161, 3162
Crane, M. B., 979
Crane, R. I., 3456, 3604f, 3604g
Crawford, C. L., 2440
Cree, C. B., 3832
Crénin, C., 950h
Crescini, F., 1413a, 3681
Cressman, A. W., 793
Criddle, W. D., 66i, 1084g
Cripps, E. G., 651
Crispín M., A., 1490
Cristinzio, M., 2543
Crittenden, H. W., 1436
Crnko, J., 3509, 3535, 3549
Crocker, A. J., 747, 3604h
Crocker, W. A., 3693
Crocomo, O. J., 576h, 1585j, 3090g
Crofts, F. C., 1481
Cromwell, B. T., 669g
Cropley, R., 266
Crosby, E. A., 152
Crosby, T. S., 742 l
Crossa-Raynaud, P., 72, 84, 181e, 241k, 1127
Crossan, D. F., 2450
Crosse, J. E., 2273, 3268, 3269
Crowdy, S. H., 15, 16, 950i
Crowe, A. D., 142
Croxall, H. E., 2534
Crüger, G., 3337f
Cruickshank, I. A. M., 2556o, 3605m
Crum, P. F., 3792
Cruz, E. E., 637, 640
Cruzado, H. J., 901, 2370, 3407p
C.S.I.R.O., Australia, 68, 227, 578, 985
Cucurachi, A., 3888
Cuillé, J., 1849, 1872, 2993n
Čukomina, M. M., 3787
Cumber, R. A., 866
Cunningham, C. E., 2347
Cunningham, G. H., 3337g
Čurakov, A. M., 2340
Curl, A. L., 3871
Curtis, O. F., 3340, 3345
Curtis, O. F., Jr., 312
Curtis, R. W., 2615c
Cuthbert, F. P., Jr., 3605d
Cutright, C. R., 1315
Čuvašina, N. P., 2184
Cuzin, J., 1591, 3637, 3661, 3664e, 3664f, 3664j
Cvetaeva, E. M., 1451
Cyprus Department of Agriculture, 1985, 1986, 2008i

Dahl, M. H., 1488
Daines, R. H., 288, 1566
Dakshinamurti, C., 3892h
Dalal, J. H., 2615f
Dalbro, K., 249, 1192
Dalbro, S., 2149
Dalgliesh, C. E., 63, 66j
Dallyn, S. L., 488, 3386
Dalmasso, G., 241 l, 1328, 3240f
Daly, J. M., 3707
D'Amato, F., 1444, 1474
Daniel, W. H., 390d, 710
Danielson, L. L., 3089j, 3390
Danilevskaja, O. M., 3125
Danish Seed Testing Station, 3024i
Danvig, A. M., 3012
Darbre, A., 3481
Dark, S. O. S., 646
Darley, E. F., 3271
Darling, H. S., 654, 670p
Darlot, —., 66k
Darpoux, H., 3280, 3281
Darroch, J. G., 3408
Darrow, G. M., 183, 241m, 3192, 3240r
Das, G. M., 2984, 2993o, 2993p
Das, N. K., 3664q
Das-Gupta, S. N., 2887
Daskaloff, C., 3464
Datta, S. C., 3407d
Daulton, R. A. C., 583
Dauphin-Meunier, —., 2993q
Davenport, J. B., 1157
David, F. N., 3029
David, W. A. L., 3422
Davidson, J., 1775
Davidson, J. H., 307
Davidson, O. W., 712
Davidson, R. H., 1973
Davies, R. G., 4003
Davis, B. H., 2291, 3288
Davis, D., 1569
Davis, E. L., 1677
Davis, G. N., 3460
Davis, J. F., 481
Davis, J. R., 2087j
Davis, L. E., 2472
Davis, M. B., 3089k

Davis, O., 3664h
Davis, R. A., 2445
Davis, R. R., 709
Davis, S. H., Jr., 1782k
Davis, T. A., 1959n
Davison, R. M., 120, 121, 124, 558, 559, 560, 1134, 2506
Dawson, J. E., 3407q
Dawson, R. F., 3629, 3636
Day, B. E., 364, 1383, 2364
Day, P. R., 1543
De, H. N., 2615f, 3631
Dean, F. P., 3321
Dean, H. A., 3855
Decelle, J., 3944
Deep, I. W., 1279, 1280
Deering, R. B., 742m
DeFrance, J. A., 3373, 3374
Degan, A., 1084m
Deighton, F. C., 1868
Dejmontovič, B. I., 1592
DeKazos, E. D., 2139
De Kimpe, P., 2354
Dekker, J., 2467, 3497
Delanoue, P., 471
Delbard, G., 3114
Del Gaudio, S., 1240d, 2240k
Delhaye, R. J., 1688
Della Bella, D., 316
De Lorenzo, F., 3546
Denis, J., 1919
Denisen, E. L., 190
Dennison, R. A., 571, 2202, 2247
Dent, H. C., 1965
Depardon, L., 3136
De Petri-Tonelli, P., 3305
Dereškevičus, K., 1544
Dermen, H., 2182g
Dermine, A., 181f
Dermine, E., 2999
De Rosa, M., 1331
Desassis, A., 2908
Deshusses, L.-A., 1549
Desjardins, P. R., 2789
Desmarest, J., 665
Desmayard, P., 1405
Desneux, R., 2900
Desrosiers, R., 2843
Deszyck, E. J., 2792, 2811
Detroux, L., 3380
Deullin, R., 851
Deutsch, M., 576j
Deutsche Akademie der Landwirtschaftswissenschaften zu Berlin, 2005, 3024 l
Deutscher Pflanzenschutzdienst, 3024b
Dewey, D. H., 1173, 2171
Dewey, O. R., 3399
DeWolfe, T. A., 2791
Dexter, S. T., 1011
Dey, L. M., 3712s
Dhar, D. C., 2671k
Dhar, M. L., 2620, 2671e
Dhar, M. M., 2671e
D'Herde, J. D., 1726
Dhingra, D. R., 2654
Dhingra, S. N., 2654
Di Caro, S., 1374
Dick, J., 3977
Dickinson, D., 1158
Dickson, A. G., 95, 96
Dickson, R. C., 838n
Diekmahns, E. C., 3688
Diener, T. O., 2341p, 3247
Dieter, A., 475, 2321, 2341q
Dieter, C. E., 307
Dieterich, H., 1782 l
Digby, M., 54
Dijksterhuis, H. P., 262, 1180
Dikshit, N. N., 2107, 3225
Diller, J. D., 2240 l
DiMarco, G. R., 2291, 3288
Di Martino, E., 781, 783, 790, 2797, 2799, 3892x
Dimitrova, E., 2628, 2633
Dimond, A. E., 577o, 1569, 3592
van Dinther, J. B. M., 859, 2827i, 2993r
Dionne, J. L., 2087k
de Dios, V. Y., 427
Dippenaar, B. J., 784
Di Prima, S., 838o, 3879
Directie van de Landbouw, The Hague, *see* The Hague
Dirlbek, J., 620
Diseker, E. G., 390e
Ditman, L. P., 417, 568, 1439
Ditmer, W. P., 617d
Dittmar, H. F. K., 3996i
Divekar, M. V., 1927
Divinagracia, G. G., 2952
Dixit, R. S., 2653
Djulizibarić, T., 1340
Djurdjević, B., 278
Dobie, N. D., 2287
Dobroljubskij, O. K., 220, 543, 3231, 3240g
Dobrovoda, K., 241n
Dobrowolski, M., 951j
Dobson, R. M., 576k
Dodel, J. B., 1405
Dodge, J. C., 2183d
Dodillet, H.-J., 436
Dodov, D. N., 2633
Dodson, A., 1514
Doering, G. R., 3585
Doerpinghaus, S. L., 1051
van Doesburg, H. H., 1103
Doesburg, J. J., 1240c, 2166
Dogonadze, D. S., 3756
Dohnal, T., 241o
Dohner, L. D., 2828n
Dokmanović, S., 2307
Domanskaja, E. N., 119
Dominick, C. B., 609
Domokos, J., 196
Donald, J. D., 2762i
Doorenbos, J., 1978
Dorado Bernal, E., 669h, 669i, 669j, 669k, 1959o
Dorasami, L. S., 1959p
Dorf, P., 960
Dorling, M. J., 2381
Dorner, R. W., 3641
Dorrell, J., 2556p
Dorta, J., 617e
Dotti, F., 139
Douglas, J., 742n
Douglas, J. W. E. H. S., 912, 950k
Douglass, J. R., 486
Dovaston, H. F., 686
Downs, R. J., 1759, 3814
Dragaš, M., 232
Dragavcev, A. P., 110
Drake, M., 66 l
Drake, R. J., 1794
Draper, C. I., 3706
van Drenth, A., 2063
Drijfhout, E., 3448
Drolsom, P. N., 617m
Drosdoff, M., 66c, 2825, 2826
Drozd, A. M., 576 l
D.S.I.R., London, 987
D.S.I.R., New Zealand, 90, 164, 586, 650, 750, 995, 1084n, 2643
Dublin, P., 3929
Ducet, G., 2587
DuCharme, E. P., 1862m, 3854
Duclos, M., 2496
Duffett, W. E., 3732
Dufrenoy, J., 1601, 1619
Dugas, A. L., 1959q
Duggan, J. B., 2096, 3099, 3189i
Dugger, W. M., Jr., 3061, 3502
Dugnani, C., 2047
Dullforce, W. M., 3731
Dullum, N., 1192, 2149
Dumas, M., 346r
Dumont, D., 2671 l
Duncan, W. H., 3674
Dunegan, J. C., 1371g
Dunham, C. W., 3716
Dunham, R. S., 1413b
Dunn, S., 2061, 3407d
Duperrex, A., 1549
Dupont, L., 873
Dupoux, A., 1206
Dupriez, G., 888
Dupuis, H., 1220
Durbin, R. D., 1741, 1748, 1749, 3892i
During, C., 1743
Dürr, H. J. R., 320
Dutt, A. K., 34
Dutt, N. L., 2993g

Dutta, N. K., 3712 l
Dutta, S., 2993t
Dutta, S. K., 847, 950 l, 2973, 2978, 2993u, 2993v, 2994d
Dutton, R. W., 63, 66j
Dutton, W. C., 1413c
Dye, D. W., 276, 277
Dye, M. H., 1354, 1371h
Dyment, R., 2223
Džamić, M., 177, 3167

Eady, C. A., 1869
Eaks, I. L., 443, 444, 3472
East Africa Tea Research Institute, 932
East Malling Research Station, 3016
Eaton, E. L., 3240h, 3240i
Eaves, C. A., 175, 3174, 3177, 3178, 3185
Ebeling, W., 3892j
Eberhardt, F., 3068
Echandi, E., 878
Eddy, B. P., 668
Edgar, E. C., 315
Edgerton, L. J., 122
Edgington, L. V., 2544
Edinburgh and East of Scotland College of Agriculture, 2008j
Edinburgh School of Agriculture, 1003c, 3203
Edmond, J. B., 1966
Edmond, J. T., 2944
Edmonstone-Sammons, C. P., 2916
Edney, K. L., 3278
Edward, J. C., 3744
Edwards, G., 1819
Edwards, R. I., 2081
Eggert, F. P., 3194
Eguchi, T., 424
Eheart, J. F., 3437
Ehrendorfer, K., 2078
Eichholz, W., 1701h
Eifrig, H., 2466
van Eimern, J., 1257
Einset, J., 1095
El-Gindi, D. M., 3601
Ela, R. M., 780
Elías, J., 3969, 3996j
Elias, R. S., 950i
Ellenberger, C. E., 3266
Ellenwood, C. W., 3407e
Elliot, J. M., 1608
Elliott, I. L., 1427
Elliott, J. G., 3407f
Ellis, D. E., 1466
Ellis, H. M., 3089 l
Ellison, J. H., 413, 416, 3377
Elstad, V. B., 21
Elting, E. C., 4029v
Elzenga, G., 1665, 1666
Embleton, T. W., 757, 758, 838p, 3832
Emiliani, G., 297
d'Emmerez de Charmoy, A., 576m
Emmert, E. M., 576n, 2512, 3604i
Emmert, F. H., 41, 3164
Emond, R. E., 3626
Emparan, P. R., 1690
van den Ende, J., 1424
Endemann, W., 1597
Enderud, J., 1091
Endres, H., 3712g
Endrigkeit, A., 431
Enercan, S., 2615a
English, W. S., 291
Enochian, R. V., 1531
Epps, W. M., 1585d
Epting, J. C., 2556q
Ergesjan, R. A., 2219
Erickson, H. T., 3604j
Erickson, L. C., 775, 3869
Erlanson, C. O., 2087q
Ermolaeva, E. Ja., 2556r
Eršov, M. F., 2015
Erspamer, J. L., 1795, 2770
d'Ersu, A. P., 1231, 1845
Ervi, L. O., 3195
Ervin, J. O., 2768, 2807
Erwin, W. R., 1360
Esau, P., 2087 l
Escritor, M. L., 862
Esdorn, I., 2671m
Espinet, G. R., 3664i
Esquivel Cruz, S., 3910
Estes, E. E., 3073
European and Mediterranean Plant Protection Organization (EPPO), 336, 1826, 2311, 2317, 3241
Eusebio, J. A., 593
Evans, H. J., 474, 1022
Evans, H. R., 2912
Evans, L. T., 1026
Evans, S. A., 3407g
Eve, D. J., 2088s
Everett, C. F., 351
Everett, H. F., 267
Evers, C. F., 3009
Evers, E., 950m, 3956
Evréinoff, V. A., 838q, 1101, 1102, 2240m, 2827j
Evstaf'eva, V. A., 1946
Ezuka, A., 2982, 2993w

Facultad de Agronomía de la Universidad Nacional de Tucumán, 1000
de Faestraets, L., 3380
Fahey, J. E., 2455
Failes, G. D., 1085h
Fairbank, H., 66m
Fairbanks, A. J., Jr., 1634
Fairfield Experimental Horticulture Station (N.A.A.S.), 66n
Falch, J., 2236, 2240n, 3156
Fanning, J. P., 2761
FAO, *see* Food
Farabee, G. J., 2271
Fardy, A., 1591, 1620, 3637, 3664j
Farmer, A., 1134
Farrar, L. L., 2946
Farrer, R. F., 645, 647
Fassi, B., 905
Fawcett, C. H., 3604k
Feder, W. A., 2805, 2827k
Federer, W. T., 2012, 2993x
Fedołova, T. K., 1168
Fedorov, A. A., 1801, 2762j
Feis, N., 2341r, 2341s
Feldmesser, J., 2805, 2827k
Feldstein, J., 3149
Fenili, G. A., 328
Fenne, S. B., 3585
Ferenczi, S., 197
Ferenczy, L., 657
Fergus, I. F., 849
Ferguson, A. B., 2229
Ferguson, J. C., 2380k, 2605
Ferguson, W., 380
Fernandez, N., 617i
Fernández de Bobadilla, G., 961
Fernández Lettry, C. H., 2240o
Fernández Valiela, M. V., 3337h, 3597
Fernando, H. E., 860, 1914
Fernqvist, I., 1195, 2150, 2251, 3176
Ferrand, M., 950n, 1909
Ferrara, A., 2847, 3665
Ferraris, I. P., 918, 919, 2929
Ferraz de Toledo, F., 3996k
Ferreira Carreto, A., 3089m
Ferreyra H., R., 1701i
Fertig, S. N., 711, 864
Ferwerda, J. D., 3950
Feucht, W., 2135
Fidler, J. C., 979, 1167, 1179
Fiji Department of Agriculture, 1003d
Filippovič, I. I., 2088i
Finch, C. G., 1447, 1525
Fine, J. M., 3059
Fink, H. C., 723
Finkenbrink, W., 1364
Finlayson, D. G., 484, 3521
Finney, D. J., 1013, 3028
Fireman, M., 1862o
Fischer, C. C., 1702
Fischer, H., 742o
Fisher, D. J., 3060
Fisher, D. V., 2142, 3117
Fisher, E. G., 1281
Fisher, F. E., 2790, 3861

Fisher, H. H., 733, 742p, 3815n
Fisher, J. R., 359
Fitzpatrick, R. E., 1371d
Fitzwater, W. D., 2680
Fjäderhane, A. M., 4, 71
Fjelddalen, J., 483, 3297, 4009
Flaig, W., 2042
Flanders, S. E., 1959r, 3323
Flawn, L. N., 4029a
Fleischhauer, O., 1752
Flémal, J., 3980
Fleming, H. K., 3233
Fleming, J. W., 3165, 3491
Flemming, G., 2072
Flerov, A. F., 1211, 2499
Flerov, V. A., 2499
Fleschner, C. A., 785
Fletcher, F. W., 797, 1655g
Fletcher, G., 345
Flippin, R. S., 854
Floch, H., 3996 l
Flock, R. A., 838n, 1271
Flocker, W. J., 405
Flood, A. E., 2087m
Floor, J., 726, 1103, 2121
Flores, M. A., 1896, 1897, 2878
Florida Agricultural Experiment Stations, 989
Floyd, F. J., 2938, 2995 l
de Fluiter, H. J., 269, 2269
Fluke, C. L., 1727
Foda, H. A., 37
Foeppel, W. G., 2451
Fogle, H. W., 2257, 3107, 3189j
Fogliani, G., 3291, 3337i
Foglino, F., 669 l
Foley, F. B., 3533
Foley, R. F., 1500
Folley, R. R. W., 2381
Fomin, E. M., 2405
Food and Agriculture Organization (FAO), 988, 4029f, 4029g
Foote, F. J., 838c
Foottit, R. L. C., 742q
Forbes, A. R., 498, 3531
Forbes, I. L., 2947
Ford, H. W., 796, 2803, 2828m, 3823, 3837, 3893g
Ford, K. E., 2428
Forde, H. I., 2241g
Foresti, B., 838r
de Forges, L., 66o
Forrest, J. D., 3350
Fors, A. L., 1936, 1942
Forsberg, J. L., 2717
Forshaw, J. E., 669m, 1187g
Forsyth, W. G. C., 1881, 1882, 3815o
Foschi, S., 279, 287, 311, 2341v, 3755
Foster, A. C., 411
Foster, C. B., 2993y
Foster, H. S., 3347
Foster, J. C., 1033
Foster, R. E., 3604 l
Foucart, G., 2881
Foulds, R. M., 1293
Fourie, S., 19, 3838
Fourmont, R., 181g, 4000
Foury, C., 1782m
Foury, R., 1782m
Fowden, L., 2723, 2730
Fowler, H. D., 3482
Fox, C. J. S., 3446
Fox, W. B., 2378
Fracanzani, G. A., 1633
Fraga, C. G., Jr., 3925
Francia, F. R., 749
Francis, F. J., 3196
Franco, C. M., 3935
Françot, P., 1309
Frankel, R., 692
Frankenburg, W. G., 1652, 1653, 1654
Franssen, C. J. H., 1492
Frazier, W. A., 3465
Frear, D. E. H., 1349, 1350
Freeman, J. F., 1411, 2353, 2371
Freeman, T. E., 1503
Freiberg, S. R., 3899
Freixas, A. A., 1860
Frémond, Y., 2849
French, B. C., 55, 1166
French, N., 3741
Frézal, P., 2311, 3892k
Frezzotti, G., 3887
Frick, E. L., 2342d
Friedman, B. A., 3188
Friedrich, G., 85, 99, 346i, 962, 3122
Friend, A. H., 3892 l
Fritz, D., 552
Fritzsche, R., 280, 1132, 1133, 1316
Frohberger, P. E., 1487
Fröhlich, H., 2337, 2383, 2505
Frolich, E. F., 1862s, 3892i
Frost, H. B., 1799
Fry, P. R., 497
Fryer, J. D., 3339, 3407g, 3407h
Fryxell, P. A., 3089n
Fudge, O. L., 356
Fujioka, S., 1734
Fujita, K., 1784, 1822, 1843, 1844
Fukuda, J., 331, 779, 786, 788, 792
Fukunaga, E. T., 876
Fuller, J. C. E., 389
Fuller, W. H., 405
Fulling, E. H., 1701j
Fulton, J. P., 3337j
Fulton, R. H., 1202
Fulton, R. W., 1262
Fults, J. L., 2040
Furr, J. R., 769, 808, 3892m
Furtick, W. R., 3403, 3404, 3405
Furuhata, A., 3988
Furuya, K., 3996m

G—., G., 1310
Gabelman, W. H., 511, 3604j
Gagnard, J., 1808
Gagnard, J.-M., 771
Gagnotto, A. V., 3815p
Gaie, W., 3980
Galba, J., 3777
Galbally, J. H. W., 2008b
Galbis, J. A., 1610, 1611, 2615r
Galet, P., 1967
Galińska, H., 2165
Gallardo Villá, M., 669o
Gallay, R., 214, 1994
Gallegly, M. E., 576o
Gallego M., F. L., 2993z
Gallego y Gomez, F., 1672, 2638
Gallo, G., 576p
Gallucci-Rangone, M. M., 284, 2762c
Galston, A. W., 978, 3089r
Galun, E., 439
Galvan, A. C. A., 3828
Galvez, N. L., 838s
Gambogi, P., 2333
Gambrell, F. L., 2242
Gammon, N., Jr., 238, 1234, 2341t, 2578
Gandhi, S. R., 3996n
Gangolly, S. R., 865, 2850
Ganong, R. Y., 3649
Gansa, A. N., 3090s
Gaprindašvili, N. K., 3858
Garangeat, S., 3892n
Garavel, L., 1237
Garayar, H. N., 1807, 1945, 1959s
Garber, K., 2060
Garcia, A. C., 640
García B., C., 3918, 3996o, 3996p, 3996q
Garcia, G. M., 576q
García Gancedo, A. P., 2677
García Lozado, L., 2994a
García Marquina, J. M., 669o
García Pittmann, E., 2992
García Tapia, M. del P. P., 669d, 669e
Gard, L. N., 1376
Gardner, C. A., 963
Gardner, I. C., 2667
Gardner, M. E., 1226
Garey, C. L., 3089o
Garg, M. L., 2994b
Gargiulo, A., 1207
Garman, P., 244
Garmany, H. F. M., 581, 3621

Garner, R. J., 2104, 2105, 2120
Garofalo, F., 565, 2550
Garoglio, P. G., 219
Garrard, A., 2053
Garrucho, S. S., 2936
Gartenbau-Nomenklatur-Ausschuss, 1005
Gartenwelt, 49
Gartner, J. B., 3805
Gascon, J. P., 2895, 2896
Gasser, R., 1246, 4004
Gaston, H. P., 1187i, 3189o
Gates, C. T., 3579
Gathercole, J. A., 2483
Gattani, M. L., 2666
Gatty, R., 1657
Gauch, H. G., 3071
Gault, S. M., 964
Gaümann, E., 2498, 3577
Gavrilović, M., 2248
Gawler, J. H., 1158
Gayed, S. K., 466
Gazzari, A., 1205
Geard, I. D., 1304
Geilweilerhof, Bundesforschungsanstalt für Rebenzüchtung, 4027
Geisenheim am Rhein, Bundesanstalt für Qualitätsforschung, 4014
Geisenheim am Rhein, Lehr- u. Forschungsanstalt für Wein-, Obst- u. Gartenbau, 4016
Geisler, G., 3215
Geissler, T., 2418
Geissman, T. A., 3664k
Gelderblom, J. P. B., 557
Gellatley, J. G., 3470
Gellatly, J. U., 2240p, 2240q, 2240r
Gemesio Zaffanella, M., 3615
Genders, R., 4001
Gentili, B., 2828j
Gentry, H. S., 3708
Georgala, M. B., 2341u
George, E. J., 263
Georghiou, G. P., 826, 838t, 1337, 1858
Georgiew, G., 2671y
Geraldson, C. M., 546, 1423, 1457, 2520, 3604m
Gerardi, L., 2827 l
Gerhold, N. R., 2087n
Gerin, L., 2994c
Gerlach, C. S., 742r
Gerlach, J. C., 3111
Germanova, V. F., 2028
Germing, G. H., 2070
Gerola, F. M., 1782n, 2133
Gerretsen, F. C., 47
Gerritsen, C. J., 87, 240, 1862n
Ghisleni, P. L., 2399, 2616, 2617
Ghosh, C., 669b
Giamalva, M., 2422
Gianfagna, A. J., 1782d
Giang, P. A., 417
Giard, J., 3712f
Gifford, E. M., Jr., 1276, 1277
Gigante, R., 2246
Gilbeau, W. F., 3996r
Giles, J. E., 3599
Gillespie, H. L., 1789
Gilligan, G. M., 1146
Gilmer, R. M., 346j, 2242
Gilmour, J. S. L., 3815q
Gilpatrick, J. D., 1314
Gilpin, G. L., 1438
Gil Quinza, S., 664
Ginoza, W., 617t
Giorgi, E., 1240e
Giovannozzi, M., 2594
Giovannozzi-Sermanni, G., 597, 598, 2595, 2596
Giraldi, G., 3303
Giraldo Jaramillo, A., 3909
Girard, —., 756
Giráu Bach, L., 669p
Giri, K. V., 2026
Girolami, G., 3889
Giunchi, P., 3310
Giusto, D., 1240d, 2240k
Gjaerum, H. B., 1371i, 3337k
Gjurov, G., 2218
Glasscock, H. H., 291, 3691
Glasser, R. F., 1585k
Glater, R. A. B., 1780
Glavinič, R., 1593
Glenn, E. M., 2182h
Glock, E., 1623
Glover, P. M., 950o, 2979, 2984, 2993u, 2993v, 2994d, 2994e, 2994x
Godan, D., 742s
Godoy, C., Jr., 950p, 2872
Godson, W. L., 3031
Goetz, J., 2159
Goffart, H., 3337 l
Goidànich, G., 2341v, 2709, 3085, 3250, 3262, 3289
Gokhale, G. P., 1959t, 3996u
Gold Coast Department of Agriculture, 3023
Goldweber, S., 2767, 2774, 2988
Golightly, W. H., 3741
Golubinskij, I. M., 2129
Golubinskij, I. N., 1713
Gomes, J., 881
Gomes, J. C., 2451
Gomes da Silva, J., 1959u
Gómez Carcedo, F. S., 622
Gómez Herrera, C., 3892o
Gončar, A. L., 2565
Gončarik, M. N., 3432
Gonzales, F., 2204
González, A. J., 2380c
Gonzalez, L. G., 487, 749, 751, 753
González Alonso, M., 438, 628
González B., J. E., 1491
González C., H., 1859
González Gómez, C., 661, 669q, 669r, 669s, 669t, 669u, 2638
González Mendoza, R., 2955, 3946
González Sicilia, E., 748
Good, J. M., 1371j
Goodall, D. W., 2481
Goodall, G. E., 1809, 3255
Goode, J. E., 181h, 3011
Goode, P. M., 293
Goodman, O., 1542
Goodman, R. N., 476
Goonewardene, H., 2994f
Goosen, R. J., 241p
Goossen, H., 1371k
Gopalakrishnan, P. K., 3846
Gopalakrishnan, T. P., 2850
Gopalkrishna, N., 3996n
Gopinath, D. M., 2615i
Gordon, S. A., 978
Gorkavenko, A. S., 2212
Gorlenko, M. V., 1486
Gorrez, D. D., 2640
Goss, J. A., 2476, 3840
Gossard, A. C., 2226, 2232
Gotovcev, I. Ja., 2391
Gottscho, A. M., 1653
Gotzy, M., 3745
Gouère, —., 1142
Gould, C. J., 3751, 3769
Gould, E., 3298
Gould, H. J., 569
Gouny, P., 4004
Gourley, C. O., 3284
Govi, G., 2762k, 3337m
Govindarajan, S. V., 1959v, 1959w
Gowing, D. P., 897
Graham, D. C., 2762 l
Graham, M. D., 3765
Graham, T. G., 2960
Graham, T. W., 1595
Gramolin, V. K., 3126
Gramolini, M., 2827m
Graner, E. A., 950p, 2872
Grangier, A., Jr., 877
Graniti, A., 828, 3883
Grant, S. A., 3586
Grant, T. J., 1831, 2788, 3852
Grasby, C. G., 1148
Grassi, U., 1090
Grassmann, W., 3712g
s'Gravenhage, *see* The Hague
Graves, A. H., 2240s, 2240t
Graves, C. H., Jr., 2286
Gray, A., 66p
Gray, E. G., 267
Gray, R. A., 3492

Greenfield, I., 1782o, 2366, 2762m, 3407i
Greenham, D. W. P., 181i
Greenwood, C. T., 1923
Greenwood, M. L., 1371c
Greeves, T. N., 2008o
Gregory, F. G., 2087o
Gregory, P., 3392, 3399
Gregory, P. J., 950q, 1959x
Grešnyh, B. A., 2627
Gretton, R. H., 54
Grevet, —., 66q
Grierson, W., 800, 1846, 2808, 3872, 3892p
Griesel, W. O., 3802
Griffin, D. E., 713
Griffiths, A., Jr., 731
Griffiths, L. A., 3089p
Grigarick, A. A., 2492
Griggs, W. H., 114, 127
Grignac, P., 3690
Grim, J. H., 1139
Grimaldi, A., 591
Grimm, G. R., 2784
Griner, B. M., 3712h
Grković, L., 2179
Grob, K., 1648
Grochowska, M., 1255
Grogan, R. G., 504, 1528, 1529, 3540
Groh, W., 85, 1096
Grolleau, J., 1232
Grooten, R., 76
Grootenhuis, J. A., 47
Grooters, G. T., 1084o
Gropp, A. H., 66c
Grosclaude, C., 290
Grosjean, J., 346k
Grossmann, F., 3496
Grosso, J. J., 608
Groszmann, H. M., 1960u
Grove, J. F., 3050
Groves, A. B., 3276
Groves, J. R., 2339
Grozdanov, R., 2224
Grube, A. M., 2828k
Grunewald, J., 2413, 2417
Grušvickij, I. V., 2622
Gualaccini, F., 556, 2341w
Gubenko, F. P., 2573
Gude, C. J., 2860
Gudzenko, A. A., 2258
Guengerich, H. W., 1263, 2240u, 2266
Guenther, E., 2671n
Guilbeau, W. F., 950r
Guilleau, L., 3664w
Guillemenet, R., 2319, 2556s, 3315, 3874
Guillén, M. G., 3844
Guillou, R., 169
Guinea, E., 4002
Guljakin, I. V., 2057
Gunaratnam, S. M., 950w
Günthart, E., 2301
Gunther, F. A., 1847, 2338, 3857, 3892q
Gupta, B., 1701c, 2671o
Gupta, P. S., 617f, 3664 l
Gupta, S. L., 346 l
Gurr, E., 1003e
Guseva, T. I., 1335
Gustafson, C. D., 2769, 3819
Gustafson, F. G., 458, 3064
Gušterov, G. K., 2580
Guterres Soares, R. N., 1959y
Guthrie, F. E., 3613, 3655
Guttay, J. R., 2713
v. Guttenberg, H., 1038
Guyer, G. E., 467, 1506
Guyot, H., 1872, 2993n
Guzmán M., E., 1489
Guzman, V. L., 375, 1392, 2376
Gwirtsman, J., 1084u, 3089q
Gwynne, D. C., 2534
van Gylswyk, N. O., 2833, 2834, 3485

Haag, H. P., 3940
van Haaren, A. J. H., 3927
Haarer, A. E., 1968
Haas, A. R. C., 775, 1814, 1815
de Haas, P. G., 3000
Haasis, F. A., 1735
Habardin, M. I., 2402
Haber, A. H., 3058, 3538, 3639
Haber, E. S., 3003
Hačatrjan, S. S., 203
Haccius, B., 1042
Hack, J., 3591
Hacskaylo, E., 3791
Haddock, J. L., 2439
Haddow, T. C., 2011
Hader, R. J., 2480
Hadfield, M., 1969
Hadiwidjaja, T., 2848
Hadland, K., 3815r
Haegermark, U., 3501
Haes, E. C. M., 3815s
Hafen, L., 518, 1585 l
Hafiz, A., 1242
Hagedorn, D. J., 1655r, 2442, 2446
The Hague, Directie van de Landbouw, 986, 1987
Haigh, J. C., 65
Haines, W. B., 3951
Halais, P., 3967
Hale, C. R., 1208
Hall, A. P., 1797
Hall, B. J., 3571
Hall, C. B., 571, 2202, 2247
Hall, D. W., 1959z
Hall, E. E., 422
Hall, E. G., 3180
Hall, J. A., 334
Hall, J. W., 241q
Hall, W. C., 526, 2046
Halliday, D. J., 965, 3996s
Halsall, T. G., 1701f
Halsey, H. R., 742t
Hamblen, M. L., 2274
Hamer, P. S., 2285
Hamers-Casterman, C., 2615j
Hamill, R. L., 2615k
Hamilton, D. W., 2312
Hamilton, J. K., 1701k
Hamilton, J. M., 2272, 2278, 2289
Hamilton, L., 3412
Hamilton, R. A., 895, 2816
Hamilton, R. H., 1040
Hamilton, W. A., 3240j
Hammar, H. E., 239, 2233
Hammarlund, A., 381
Hammer, A. L., 728
Hammer, O. H., 1366
Hammond, L. C., 1073
Hammond, P. S., 3921
Hamner, C. L., 456, 718, 2044, 3716
Hamner, K. C., 35
Hampl, J., 216
Hamson, A. R., 551
Hamstead, E. O., 3298
Hanada, S., 2126
Hancock, C. R., 3004
Handa, K. L., 3712d
Handford, R. H., 2400
Hanger, F. E. W., 742u, 1776
Hanna, A. D., 858
Hansen, C. J., 305, 3112
Hansen, E., 147, 1177, 3187
Hansen, R. M., 1371 l
Hanson, N. S., 367
Hanson, W. D., 1585v
Hanson, W. I., 3672
Harada, R., 140
Harada, S., 1949, 1960a, 2971, 3983
Haramoto, F. H., 1769
Harborne, J. B., 1021
Hardenburg, R. E., 161, 801, 3182
Hårdh, J. E., 1196, 1290, 1303
Harding, P. L., 2888
Harding, P. R., Jr., 3197
Harding, R. B., 838i, 1818, 1862o, 2827n
Hare, W. W., 1574
Harkevič, S. S., 2671p
Harler, C. R., 950s, 966, 1960b, 2994g
Harley, C. P., 134, 135, 3155
Harmon, F. N., 211, 212, 273
Haroldsen, F. O., 551
Harries, F. H., 472
Harrington, J. F., 2477
Harris, D. G., 1607, 2588, 2589
Harris, E., 66r
Harris, H. C., 589

Harris, J. H., 3815t
Harris, J. O., 1685
Harris, R. W., 127
Harris, W. B., 1138, 3227
Harrison, B. D., 268
Harrison, D. E., 1570
Harrison, F. P., 568
Harrison, I. R., 713, 1740
Hart, S. A., 3032
Hart, W. H., 1862p
Hartley, C. W. S., 2894, 2994h
Hartley, G. S., 3407j
Hartman, J. D., 3426
Hartman, T. A., 2489
Hartmann, C., 2177
Hartmann, H. T., 3112, 3238
Hartsema, A. M., 2721, 3758
Harvey, J. M., 1230
Harvey, W. A., 2355
Hasdenteufel, J.-E., 839 l
Hasegawa, M., 2182i
Haskell, G., 1092, 1546
Haslam, R. J., 2579
Hassan, M. V., 2991
Hasselo, H. N., 2837
Hasselstrom, T., 1659
Haswell, G. A., 2087p
Hatch, A. B., 1371m
Hatcher, E. S. J., 2104, 2105
Hatipov, A. È., 3137
Hatipov, Š. È., 3137
Hatton, T. T., Jr., 3821
Hauck, F. W., 950t
von Hausen, S. S., 2833, 2834, 3485
Hauser, E. W., 370
Hauser, J., 2577
Havis, L., 2157
Hawaii Agricultural Experiment Station, 4017
Hawaiian Sugar Planters' Association, 1924
Hawks, S. N., 2576
Hawley, W. O., 1667
Hawthorn, L. R., 491, 2479
Hawthorne, P. L., 2290, 3189k
Hay, J. R., 353, 1402, 2039
Hayashi, K., 477
Hayashi, S., 264, 3131
Haycock, R. P., 2618
Haylock, J. H., 3189 l
Haynes, H. L., 3334
Hayslip, N. C., 562, 2532
Hayward, H. E., 2117, 3840
Hayward, W. F., 3892p
Hazina, E. P., 2556t
Hazleton, L. W., 1655h
Head, W. F., Jr., 1911
Heath, O. V. S., 66s, 3039, 3040
Heath, R. G., 1995
Heatherington, W., 858
Hedden, O., 2530
Heeger, E. F., 967
Heggeness, H. G., 1085h, 2345
Heggestad, H. E., 608
Heggli, M., 3240k
Heiber, H., 2090, 2182j
Heikinheimo, O., 1317, 3333
Heiligman, F., 2427
Hein, E. A., 2671q
Heinecke, H., 2088a
Heinonen, S., 1484
Heintze, S. G., 2443
Heinze, W., 2420
Heitefuss, R., 2022
Hejndorf, F., 1488
Helder, R. J., 2058
Hellqvist, H., 1375
Hellyer, A. G. L., 990, 4018, 4029k
Helms, C. C., Jr., 2363
Helms, K., 2615 l
Hemming, H. G., 1046
Hemphill, D. D., 1379
Hemstreet, C. L., 2364
Henauer, A., 1334
van den Hende, R., 3815u
Hendricks, R. H., 4006
Hendricks, S. B., 3169, 3170
Hendrickson, A. H., 149, 2158
Hendrickson, R., 838w
Hendrix, J. W., 2013
Henmi, S., 3435
Henriksen, A., 2556u
Henry, P., 2904
von Hentig, W.-U., 1739
Hepler, P. R., 3539, 3572
Heremans, R., 1673
Hering, M., 206
Hermoso, C. E., 749
Hernandez, E., 251
Hernández, M. R., 1896
Heron, P. N., 3506
Herrera, J. J., 3699
Herrero, J., 97
Herrmann, R., 1625
's-Hertogenbosch, State Horticultural Advisory Service, 4019
Hervey, G. E. R., 429
Heslop-Harrison, J., 1039, 1675
Hess, C. E., 727, 3797
Hesse, C. O., 305
Heuberger, J. W., 281
Hewetson, F. N., 3142
Hewitt, E. J., 549, 893, 1452, 3578, 4004
Hewitt, W. B., 1226, 1276, 2254
Hey, G. L., 2341x, 2483
Heydecker, W., 62
Heymann-Herschberg, L., 763
Hickey, K. D., 2341y
Hicks, E. W., 2086, 2170
Hidalgo, L., 209, 2206
Higdon, R. J., 1139, 1150, 2115, 3242
Higgins, R. P., 3852
Highkin, H. R., 1476
Highland, H. A., 3722
Hiki, M., 1465
Hikichi, A., 334
Hilal, S. H., 3712i
Hilborn, M. T., 2265, 3539, 3572
Hildebrand, R. P., 626
Hildebrandt, A. C., 2051
Hilgeman, R. H., 3842
Hilkenbäumer, F., 2090, 2182j
Hill, A. V., 1638
Hill, J. R., 3011
Hill, R., 1782b
Hiller, W., 2676
Hillis, W. E., 2027
Hillman, W. S., 3089r
Hillsborough Agricultural Research Institute, Northern Ireland, 2008a
Hilton, R. J., 541
Hind, R. A., 3394
Hindle, R., Jr., 2189, 3193
Hinreiner, E., 1360
Hinton, H. E., 1352
Hintze, S., 2557c, 3515, 3604s
Hirst, J. M., 3272, 3337n, 3507
Hirst, R. H., 3395
Hirt, W., 258, 1259
Hitchborn, J. H., 1585m, 2600
Hitchcock, S., 337, 2320, 2342j, 3301
Hitier, H., 1636, 3610, 3611, 3618, 3624, 3643, 3664m, 3664o, 3664p
Hitz, C. W., 191, 1146
Hłyn, M., 255
Hoare, E. R., 49, 60, 66t, 66u, 1068
Hoblyn, T. N., 86, 857
Hochapfel, H., 2341z
Hockey, J. F., 3265, 3337o
Hockey, K. C., 1079, 1461, 3580
Hocking, G. M., 3672
Hodge, W. H., 2087q
Hodgson, G. L., 3478
Hodgson, H. C., 3698
Hodgson, J. M., 3346
Hodgson, R. W., 838u, 1862q
Hodson, W. E. H., 2693
Hodyrev, G. A., 3787
Hoed, J., 643
Hoffman, I. C., 2513, 3536
Hoffman, M. B., 122, 2182k
Hoffmann, P., 3122
Hofmann, E., 3089s
Hoglund, C. R., 1067
Holden, F. R., 4006
Holland, H., 3522
Holley, W. D., 3777

Hollings, M., 2697, 3752
Hollstein, U., 3712y
Hollunder, W., 1767
Holly, K., 3407k
Holm, L., 2082, 3729
Holmes, F. O., 1719
Holmes, G. D., 3349
Holmes, H. M., 3392
Holmes, R. M., 1565, 2087k
Holttum, R. E., 742v
Homès, M. V., 3616
Honan, N. D., 2089
Honda, S. I., 17
Hondelmann, W., 742w
Honma, S., 419
Hood, J. R., 3815v
Hood, K. J., 2477
van Hoof, H. A., 489
Hooper, M. M., 2556v
Hoos, S., 1862r
Hopkins, C. Y., 2664
Hopkins, J. C. F., 968
Hopkins, L., 1585z
Hord, H. H. V., 854
Horgas, D., 1585n
Horn, A. S., 2182 l
Horn, N. L., 346m, 2290, 2422
Hornby, C. A., 1099
Horner, C. E., 1660, 2635
Horner, T. W., 3516
Horowitz, B., 2665
Horsfall, F., Jr., 346n, 2138
Horsfall, J. G., 2535
Horspool, R. P., 3868
Horticultural Education Association, 1988
Horton, D. E., 2702
Hoskins, W. M., 1360
v. Hösslin, R., 2419
Hotin, A. A., 631
Hough, J. S., 3697
Hough, L., 179, 180
Houssny, H. H., 1575
Houston, B. J., 1564
ten Houten, J. G., 2342a
Hovadik, A., 659
Howard, F. D., 3604t
Howard, G. A., 1701 l, 2647, 2649, 2650, 3696, 3697, 3712j, 3712k
Howard, H., 66v
Howard, H. D., 868
Howat, G. R., 2845
Howden, J. S., 2348
Howe, E. E., 1669
Howe, K. J., 3679
Howes, M. M., 1050
Howick, S. J., 3363
Howland, A. F., 1582, 2548, 3500
Howles, R., 3420
Howlett, F. S., 3189n
Hoyt, S. C., 1318, 2316
Hrishi, N. J., 2615i
Hristov, A., 2292
Hu, C.-C., 838v
Huang, C. R., 898
Huang, H., 3570
Hubbard, R. D., 3074
Huber, B., 2182m
Huber, H., 241z, 1705
Hubert, F. P., 1960c
Huberty, M. R., 768
Hudault, E., 3874
Hudson, J. P., 61, 1034, 2065, 4024
Hudson, J. R., 1682
Huet, R., 1874
Huffaker, C. B., 1323
Hughes, C. G., 1960d
Hughes, D. T., 474
Hughes, E. C., 2353
Hughes, H. M., 2008b
Hughes, R. H., 2957
Huguet, F., 3229
Hull, J. W., 1189, 2193, 2240v
Hulme, A. C., 181k, 1155, 2167, 2173
Hulshof, H. J., 151
Humbert, R. P., 3971
Humphreys, T. E., 3502
Humphries, E. C., 3076
Hung, L., 3570
Hunnam, D., 345, 1293, 2285, 2483
Hunt, J. L., 3388
Hunter, D. L., 2172
Hunter, H. S., 617g
Hunter, J. A., 2253
Hunter, J. H., 239, 2233, 3237
Hupkens van der Elst, F. C. C., 1427
Hurd, R. G., 3078
Husain, A., 2556w
Husfeld, B., 4027
Hussein, A. El A., 813
Hussey, G. G., 2901
Hutcheson, T. B., Jr., 592
Hutchison, F. W., 904
Huter, R., 1589
Hutson, R., 1506
Hütter, R., 3577
Hutter, W., 3620
Huxley, A. J., 2008c
Huyke, A. S., 951s
Huyskes, J. A., 3604n
Huzii, T., 1585q
Hyland, F., 2265

Ibáñez Martín, M. L., 669n
Icart, A., 3892r
Ick, F. R., 2672j
Idle, D. B., 64, 2434
Idrobo M., S., 3914, 3916, 3917, 3997c
Ihara, Y., 3798
Iijima, T., 1479, 3416
Ikeda, N., 2630
Ildis, P., 799, 1231, 1842, 1845
Iliev, P., 1596
Il'in, G. S., 2614, 3632
Iljin, W. S., 3089t
Illankoon, R. L., 3986
Imms, A. D., 4003
Imperial Chemical Industries Ltd., 1001
Imperial College of Tropical Agriculture, Trinidad, 4029h
Incze, F., 688
Inden, T., 536
Indian Coffee Board, 1888, 2994i
Indian Council of Agricultural Research, 4020
Indian Tea Association, Tocklai, 2962, 2965
Indonesia, C.P.V. Experiment Station, 1989
Indriksons, É., 3438
I.N.É.A.C. (Institut National pour l'Étude Agronomique du Congo Belge), 1990
Inforzato, R., 3824
Ingalsbe, D. W., 3189x
Ingram, J., 3287
Ink, D. P., 3192, 3201
Innes, R. F., 2087r
Inoue, T., 3512, 3518
Inoue, Y., 1478, 3475
Institut pour l'Encouragement de la Recherche scientifique dans l'Industrie et l'Agriculture, Brussels (I.R.S.I.A.), 992, 4029i
Institut National pour l'Étude Agronomique du Congo Belge (I.N.E.A.C.) 1990
Institut National de la Recherche Agronomique (I.N.R.A.), 346o
Institut des Recherches sur le Caoutchouc en Indochine (I.R.C.I.), 2917
Institut de Recherches pour les Huiles et Oléagineux (I.R.H.O.), 3017, 4004
Institute of Brewing Hops Advisory Committee, 644, 3692
Instituut voor Toegepast Biologisch Onderzoek in de Natuur, Arnhem, 261
Instituut voor Tuinbouwtechniek, Wageningen, 1081, 1991, 1992
Instituut voor de Veredeling van Tuinbouwgewassen, Wageningen, 1093
Intengan, C. L., 66w

International Horticultural Congress, Organising Committee, 3001
International Potash Institute, 991
Iowa, Division of Agriculture, State College, 1993
Iowa State College, 3211, 3234, 3372
Iriarte, J., 1957
Irons, F., 3589
Isaac, I., 3445
Isenberg, F. M., 3426, 3513
Isherwood, F. A., 178, 1018
Ishigaki, K., 939, 1948, 2968, 2970, 3989
Ishihara, M., 140, 755
Isotalo, A., 1240f
Istas, J. R., 1673
Itagi, T., 1465
Itinskij, V. I., 1062
Ito, H., 440, 1462, 3461
Ito, K., 1499, 1915, 3511
Ivanoff, D., 2762n
Ivanoff, S. S., 435
Ivanova-Parojskaja, M. I., 2137
Ivanovskaja, A. A., 1802
Ivimey-Cook, W. R., 973
Iwakiri, B. T., 114, 127
Iwasaki, T., 773, 774
Iyengar, K. G., 1692
Iyer, S. N., 2887
Iyer, T. A. G., 3833
Iyyangar, T. R., 3833
Izard, C., 1636, 3609, 3610, 3611, 3624, 3643, 3664m, 3664n, 3664o, 3664p
Izquierdo Tamayo, A., 617h

Jacks, H., 344, 433, 463, 497, 1571, 1722, 2335, 3089u, 3335
Jackson, A. A., 3007
Jackson, J. P., 3007
Jackson, R. K., 2021
Jackson, W. T., 594, 2522
Jacoboni, N., 257
Jacobs, A., 157
Jacobson, M., 1687
Jacquy, P., 2010
Jaeger, M., 3664e
Jagendorf, A. T., 1084e
Jain, S. S., 1901
Jakovlev, P. N., 83
Jakuškina, N. I., 532, 2507
Jalil, M., 2106
Jamaica Department of Agriculture, 1960e
Jamalainen, E. A., 1171
Jamison, F. S., 1429
Jammar, M., 945
Janer del Valle, C., 3892o
Jang, R., 1016, 1017
Janick, J., 3204
Jankiewicz, L., 129
Janko, P., 643
Janković, V., 2031
Jannone, G., 1656
Jary, C. L., 649, 653
Jaskevič, R. T., 3240 l
Jasmin, J. J., 380, 1397, 3396, 3407 l
Jayaraman, V., 2981
Jayasekera, E. W. H., 3963, 3996t
von Jazewitsch, W., 2182m
Jeener, R., 1655i, 2615j
Jeff, A. E., 2703
Jeffers, W. F., 3285
Jefferson, R. N., 677, 702, 1732, 1747, 3725
Jeffrey, R. N., 1617, 2592, 3628
Jegorowa, S. A., 1353
Jenkins, H. V., 1481
Jenkins, J. A., 3559
Jenkins, J. E. E., 1543
Jenkins, J. M., Jr., 1735
Jenkins, W. R., 2547
Jennings, E. A., 940, 941
Jensen, F. L., 3312
Jensen, H. J., 310, 1660, 2635
Jensen, J., 576r, 2509
Jensen, W. A., 1084p
Jensma, J. R., 969, 3436
Jeppson, L. R., 3856, 3865
Jepson, W. F., 928, 950u
Jermyn, M. A., 178
Jex-Blake, A. J., 4005
Jha, A., 2552
Jha, J. N., 2995b
Jiménez-Cuende, F., 66x
Joachim, A. W. R., 984
Johansen, C., 2182n
Johanson, R., 2575
Johansson, E., 1122, 2145, 3119, 3121, 3199
Johar, D. S., 1960j
John, C. A., 3458
John Innes Horticultural Institution, 3018
Johnsen, J. K., 2557i, 2557j
Johnson, B., 1578
Johnson, B. L., 681, 742x
Johnson, C. M., 547, 3419
Johnson, E. I., 2341a
Johnson, G. V., 3784
Johnson, I. J., 3766
Johnson, R. B., 2798
Johnson, R. M., 3710
Johnson, S. P., 526, 530, 3569
Johnson, W. H., 3659
Johnson, W. T., 1332
Johnston, C. J. R., 742y, 2800
Johnston, J. C., 1862s, 2827o
Johnston, S., 1193
Jones, D. R., 15, 16
Jones, E. R. H., 2556x
Jones, F. G. W., 1585o
Jones, H. A., 1535, 3604o
Jones, J. P., 1567
Jones, J. R. D., 576t, 1585p
Jones, L. T., 1208
Jones, M. B., 3165
Jones, P. A., 1890, 3932
Jones, W. W., 758, 759, 838p, 1816, 3832, 3839
de Jong, D. J., 346p
Jordan, C., 2023, 3212
Jordović, M., 1371n
Jørgensen, J., 1523
Jørstad, I., 4009
Joshi, B. G., 2607
Joshi, D. V., 3712 l
Joshi, G. K., 669v
Joshi, N. C., 3595
Joslyn, M. A., 3510
Joubert, G. F., 3838
Jouis, E., 3135
Jovićević, B., 278
Joyce, A. E., 2095
Júarez Galiano, L., 540
Judenko, E., 858, 3986
Judinceva, E. V., 2057
Judkins, W. P., 2093
Juliano, B. O., 950v
Junaid, A. H. M., 1712
Juneja, S. L., 577h
Jung, J., 1707
Junges, W., 2720, 3550, 3815w
Jungfer, E., 3815x
Juniper, B. E., 3089g
Junošev, V. K., 2612
Junusov, S. Ju., 378
Juras, I., 74, 75
Justyák, J., 2207

Kabulov, D. T., 378
Kačova, M., 656
Kaesberg, P., 1655r
Kaever, R., 2762x, 3754
Kagawa, A., 576s, 1537
Kahlon, A. S., 2087s
Kahn, A., 2476, 3641
Kajimoto, S., 1805
Kalantyr', M. S., 1689
Kalin, E. W., 3761
Kallio, T. K., 1187h
Kalmar, A. F., 3892s
Kalra, G. S., 545
Kalugina, E. V., 3166
Kamata, H., 1152
Kamath, S. H., 2556y
Kamemoto, H., 679, 2704, 2762o
Kamerbeek, G. A., 2025
Kamimura, S., 3604w
Kamińska, T., 2631
Kamp, J. R., 1757
Kanagaratnam, N., 2401
Kanitkar, U. K., 2549

Kansas Agricultural Experiment Station, Manhattan, 4029j
Kantorovič, A., 970
Kaplan, L., 448
Kapoor, L. D., 629, 2619
Karash, C. B., 242d
Karlin, E. J., 3784
Karmanov, V. G., 765, 2435
Karnatz, H., 101, 104, 3118
Kárpáti, Z., 73
Kartha, A. R. S., 2851, 2995a
Kašičkina, M. I., 2240w
Kas'janenko, A. I., 2113
Kasza, D. S., 3214
Kaszonyi, S., 410
Kattan, A. A., 3491, 3581
Katznelson, H., 2437
Kaufman, J., 801
Kaul, R., 2042
Kausche, G. A., 1274
Kavaljian, L. G., 1084p
Kawaguchi, T., 1737
Kawai, S., 939, 1948, 2966, 2968, 2969, 2970, 3989
Kawamura, S., 1493, 1585q
Kazarjan, V. O., 14
Kazas, I. A., 2212
Keane, F. W. L., 3189t
Keays, J. W., 3342
Kebby, R. G., 1869
Kedrov-Zihman, O. K., 3525
Keegel, E. L., 950w, 971
Keep, E., 2185
Kefford, J. F., 2810
Kefford, N. P., 2615 l
Kefford, R. O., 576t
Keijer, E. J., 1180
Keitt, G. W., 576w
Kelbert, D. G. A., 1423
Kelly, W. C., 3089v
Kelly, W. H., 1061
Kelman, A., 2556w
Kelsey, J. M., 3604p
Kelsheimer, E. G., 2719, 2731
Kemmer, E., 70
Kenaga, C. B., 2408
Kendrick, J. B., Jr., 3467
KenKnight, G., 2342b, 2342c
Kennard, W. C., 621, 884, 885
Kennett, C. E., 1323
Kenten, R. H., 1485
Kenworthy, A. L., 136, 1150, 2200
Kern, H., 553, 3560
Kerr, A., 742z
Kerr, S. H., 2681, 3815y
Kessler, B., 1084q
Kessler, H., 176
Kesterson, J. W., 838w
Kettner, H., 181 l
Keuken, W., 3184
Keuls, M., 1443
Keyworth, W. G., 3523
Khan, N. A., 3604q
Khandige, S. B., 2985
Khanna, A. N., 2556a, 2694
Khanna, K. L., 923, 925, 3973
Khin, U. B., 2582
Kho, Y. O., 492
Khot, B. D., 2549
Kibe, M. M., 3996u
Kibushi, H., 2982
Kick, H., 3089w
Kidd, D. A. A., 3712m
Kidder, E. H., 1067
Kidson, E. B., 2521
Kienholz, J. R., 283
Kiesling, R. L., 2408
Kilbuck, J. H., 2182e
Kilby, W. W., 833
Killian, C., 452
Kimball, K., 2215
Kimball, M. H., 2364
Kincaid, R. R., 2578, 3613
Kinch, D. M., 383
Kincl, F. A., 1957
Kindt, V., 1585r
King, D. R., 318
King, J. R., 2792
King, K. M., 498, 3531
King, N. C., 1938, 3977
King, N. J., 950x
King, T. H., 2447
Kinney, J. R., 3332
Kinsman, G. B., 3207
Kiplinger, D. C., 737
Kips, R. H., 1726
Kira, H., 1151
Kirby, A. H. M., 2342d, 3022
Kirby, R. S., 2288, 3783
Kirk, L. K., 687
Kirkpatrick, J. D., 758
Kiseleva, V. I., 2377
Kishaba, T., 2216, 3228
Kišon, A., 228
Kitchin, J. T., 1552
Kivilaan, A., 2696
Klang, C. A., 2145
Klapperich, B. J., 3859
Klaus, H., 2683
Kleczkowski, A., 3646
van Kleffens, E. J., 1084a, 1084r, 3337p
Klein, E.-K., 2615m
Klein, L. G., 1095, 3102
Klein, R. M., 3067
Klein, S., 2222
Klein, W. H., 21, 2029, 3036
Klenk, E., 1223
Klešnin, A. F., 402, 501, 674
Klingbeil, G. C., 241r
Klingler, J., 1330, 3319
Klingman, G. C., 361
Klinkowski, M., 340, 2615n
Klohs, M. W., 3712n
Klotz, L. J., 1862t, 1862u, 2791, 2827p, 2827q
Knickmann, E., 1224
Knight, R., 1878
Knight, R. L., 2185
Knoppien, P., 1247
Knorr, L. C., 777, 1830, 1833, 2786, 2827r, 2827s, 3892t
Knott, J. E., 3002, 3455
Knust, H. G., 930, 3996v, 3996w
Knutson, K. E., 2087t
Kobel, F., 2002
Koch, E. J., 2017, 3237
Koch, F., 1782p
Koch, L. W., 1655j
Kocher, T. S., 2885
Koenraadt, J., 2844
Kofranek, A. M., 2762p, 3717, 3747, 3757, 3799, 3808, 3812, 3813
Kohl, H. C., 3747, 3808, 3812, 3813
Kohl, H. C., Jr., 720, 3717, 3727, 3757
Köhler, H., 280
Kolářík, J., 215
Kolenbrander, G. J., 47
Kolesnik, A. A., 1175
Kolomiec, I. A., 1114
Komarova, E. S., 1240g
Kon'kova, E. A., 3466
Konlechner, H., 233, 1240h, 1240i, 1240j
Koo, R. C. J., 1820, 2773, 3830
Kooiman, P., 1053
Koomen, J. P., 3415
Koopman, H., 3407m
Korbonits, A., 516, 522
Korchagina, L. E., 3466
Koremura, M., 792, 1022
Kormos, J[ózsef], 519, 520
Kormos, J[ózsefné], 519, 520
Koroleva, N. I., 2340
Koroleva, V. A., 2671r
Korol'kov, E. D., 1083
Korte, F., 2023
Koržina, A. N., 1598
Köster, P., 743a
Kostina, K. F., 119
Kosugi, K., 1729
Koto, M., 1152, 1811, 1843, 1844
Kotob, R. A., 3128
Kott, V., 2746
Kovachich, W. G., 1910, 3950
Kováts, Z., 693, 696
Koverga, A. S., 3026
Kowalewsky, B. W., 1563
Koyamu, K., 3924
Koževnikova, A. N., 3525
Kozma, P., 200, 205
Kozová, J., 2511
Krackenberger, H. F., 499
Krajkeman, A. J., 2671s
Král, J., 1286

Kramer, A., 3581
Kramer, M., 1568
Kramer, S., 81
Krammer, A., 1439
Krasil'nikov, N. A., 1308
Krasinskij, N. P., 25
Krasovskaja, T. A., 3066
Kraus, V., 241s
Kravcova, B. E., 2507
Kremer, F.-W., 2299
Kreutz, W., 603, 2249
Krickl, M., 494
Krieg, A., 3449
Krishnamoorthi, T., 617b
Krishnamoorthy, K. V., 3664q
Krishnamurthi, M. N., 669w
Krishnaswamy, P. R., 2026
Krisnamurthi, S., 2827t
Kristensen, H. R., 743b, 1467, 2270
Křivánek, V., 222
Kříž, J., 1679, 2651
Kroll, U., 3365
Krone, P. R., 2713
Kronenberg, H. G., 189, 1240c
Krotova, O. A., 2386
Krouch, E. D., 2073
Krümmel, H., 85, 181m
Krüssmann, G., 743c
Krutikova, L. P., 633
Krylov, A. V., 1175
Krythe, J. M., 3337q
Kryžanovskij, F. D., 1556
Kublickaja, M. A., 1308
Kubota, T., 2636, 3982
Kuc, J., 2276
Kühle, G., 2762q
Kühne, V., 2182o
Kulescha, Z., 2041
Kulka, K., 2671n
Kulkarni, L., 66y
Kumaki, Y., 1509
Kumar, K., 531
Kuminov, E. P., 2194
Kundert, J., 3337r
Kunstmann, F. W., 2567
Kunz, G., 1322
Kurihara, A., 755
Kurki, L. M., 2556z
Kursanov, A. L., 26
Kurup, C. K. R., 3663
Kurzmann, P., 1425
Kutschajewa, A. G., 1353
Kuwabara, Y., 1960f, 3988
Kuwada, H., 1497, 1498
Kuzin, A. M., 1019
Kuz'min, A. Ja., 1240k, 2184
Kuznecova, A. K., 1720
Kvíčala, A., 508

Lachman, W. H., 3401
Lacombe, R., 241t
Lacotte, J., 3627
Lacson, M. V., 950z, 951a
Lagan, F. B., 3685
Lagasse, F. S., 834, 836
Lahtz, K., 706
La Hulpe, Station Provinciale des Recherches Scientifiques en Viticulture, 1204
Laíns e Silva, H., 950y, 1960g, 1891, 2858, 2963, 2994j
Laird, E. F., Jr., 838n
Lake, J. V., 107
Lakshminarasimhiah, D. P., 1960h
Lal, B. M., 2669
Lal, K. N., 2939
Lalatta, F., 80, 2557a, 3157, 3880
Lamb, J. G. D., 1249
Lambert, E. B., 576u, 2457, 3604r
Lambeth, V. N., 2390, 2557b
Lambrech, J. A., 3334
Lamm, R., 2510, 2557c, 3604s
Lamouria, L. H., 3172
Lampe, P., 1084s
Lamprecht, H., 2762r
Lampton, R. K., 3892u
Lana, E. P., 3516
Lance, E., 3571
Lanchester, H. P., 3321
Landrau, P., Jr., 1928, 2831, 2913, 3966
Landwirtschaftlich-Gärtnerische Fakultät der Humboldt-Universität zu Berlin, 2006
Lang, A., 3051
Langbein, H., 1358
Lange, A. H., 876
Lange, W. H., 1360, 2492, 3429, 3542
Langedijk, G., 3324
Langerak, D. I., 1182
Langhans, R. W., 2762s
Langridge, J., 3055
Langston, R., 3062, 3063
Lantz, H. L., 1782q, 3189n, 3766, 3815z
Lapins, K., 1099, 2101, 2182p
La Rotonda, C., 542
Larsen, P., 978
Larsen, R. P., 217
Larson, K. H., 1563
Larson, R. H., 1585s, 3605j
Lasheen, A. M., 182
Lassandro Pepe, T., 2827u
Last, F. T., 3440
Latimer, L. P., 2061, 2160
Lauffer, M. A., 617c, 1655f
Laumeister, L. T., 382
Laurent, R., 66z
Lausanne, Stations Fédérales d'Essais Agricoles, 1994
Lauter, W. M., 1911
Lauther, S., 49
Lautz, W., 606, 2603
Lavalleye, M., 3380
Lavie, P., 2656
Lawes Agricultural Trust, 4023
Lawrence, E. N., 1254
Lawrence, F. P., 1862v
Lawrence, W. J. C., 67n
Lawson, F. R., 610, 2615o
Laycock, D. H., 3981
Lear, B., 576v, 1576, 2557d
LeBeau, F. J., 1896, 1897, 2878
Leben, C., 576w
Le Blanc, R. J., 1960i
Leblond, C., 1181
Leblond, D., 2541
LeCompte, S. B., Jr., 510
Lecoufle, M., 1970
Lecrenier, A., 181n, 3133, 3547
LeCrone, F., 3025
Ledin, R. B., 2762t, 2762u, 2987
Lee, B. W., 1862w
Lee, F.-V., 2940
Lee, L. A., 669x
Lee, O. C., 1394
Leefe, J. S., 349, 3407n
Lefèvre, H. E., 2240x
Lefort, E. J. E., 1388, 2994k
Lehmann, E., 743d
Lehmann, P., 1257
Lehoczky, J., 694
Lehr, J. J., 44
Leiderman, L., 2342e
Leiser, A. T., 1777, 2762p, 3799
Lejeune, J. B. H., 3996x
Lelacheur, K. E., 350
van Lelyveld, L. J., 2914
Lemaistre, J., 1413d
Leman, V. M., 399
Lembeck, W. J., 2350
Lenartowicz, W., 1147
Lent, J. M., 2514
de León, A., 3699
Leonard, C. D., 1819
Léonard, J., 2832
Leonard, O. A., 2355, 3220, 3343
Leonard, S., 2180
Leone, I. A., 1566
Léontovitch, C., 2557e
Leopold, A. C., 3045, 3551
Lepage, H., 3996y
Le Pelley, R. H., 3945
Leppik, E. E., 67a
Lerche, K., 3367
Lesik, B. V., 633
Łęski, R., 1329
Lespes, L., 3864
Levin, J. H., 1187i, 3189o
Levitt, J., 972
Levonen, H. J., 1410
Lévy, J. F., 4004

Levy, S., 3996z
Lewis, D. A., 1502
Lewis, F. H., 2288, 2341y
Lewis, H. C., 2827v, 3892v
Lewis, J. J., 669y
Lewis, Y. S., 1960j
Ležankina, Z. S., 2468
Lhoste, J., 346q
Li, H. L., 2762v
Li, K.-Y., 916
Liard, O., 2999
Libbert, J., 2087u
Lichte, H. F., 2060
Lichy, C. T., 3140
Lider, L. A., 3220
Liebster, G., 193, 243, 2303
Lienk, S. E., 312
van Lier, P. J., 151
Liger, P., 225
Liljedahl, J. B., 383
Lilly, J. H., 2455
Lilly, P. L., 3240m
Limfat, E., 909
Lincoln, W. C., Jr., 617d
van der Linde van Sprankhuizen, J. C., 1389, 3366
van der Linde, W. J., 1313
Linden, G., 3376
Lindgren, D. L., 791, 814
Lindquist, B., 2762w
Lindstrom, R. S., 3778
Ling, P., 1864
Ling, R.-S., 1864
Lingle, J. C., 1415, 3452
Link, C. B., 3806, 3807
Linke, W., 2297
Linn, M. B., 2392
Linsley, E. G., 1360
Linton, D. C., 2439
Lipp, A. E. G., 2481
Lister, J. H., 3997a
Lityński, M., 523
Liu, P. D., 2933
Liverman, J. L., 23, 526, 2046, 3057, 3569
Livingston, G. E., 194
Liwerant, J., 3134, 3189p
Liyanage, D. V., 1883
Lizárraga Goñi, J., 1941
Lizer y Trelles, C. A., 949
Ljones, B., 3139
Llewelyn, F. W. M., 2325, 3331
Lloyd-Jones, C. P., 3060
Lock, G. W., 642, 832, 2930, 3368, 3687, 3712o
Lockhart, J. A., 3052
Lockwood, J. L., 2271
Locsin, C. L., 919, 950z, 951a, 1929
Loder, J. W., 3677
Loeffler, W., 2498
Loewus, F. A., 1016, 1017
Lohmeyer, V. K., 1342
Löhrke, L., 148
Lona, F., 1024, 1048, 1674, 2036, 2037, 2087e
Long, I. F., 2087v
Long, W. G., 398
Longenecker, G. W., 743e
Longley, R. P., 3189q, 3189r
Loomis, W. E., 1372
Loosjes, F. E., 2456
López Arana, M., 2994 l
Lopušanskij, P. I., 2238, 2239
Lord, W. J., 3158
Lordello, L. G. E., 1504
Lorentz, P., 738, 2762d, 3815f
Lorenz, O. A., 3604t
Lorenzen, C., 1584
Loring, H. S., 2615p
Lotova, L. I., 3115
Lott, R. V., 3252
Lott, W. L., 138, 2868, 2869
Louis, A., 1187j
Loupe, D. T., 368
Loustalot, A. J., 2370
Louvet, J., 346r
Lovern, J. A., 4008
Lovisolo, O., 286
Lowe, A. D., 1454, 1455, 1585t
Lownsbery, B. F., 305, 309
Lu, K. C., 2062
Lubatti, O. F., 713
Lucas, G. B., 585, 2572
Luce, E. N., 1862h
Łucka, M., 187
Luckwill, L. C., 69, 979, 1159, 3022, 3189s, 3352
Lüders, R., 2515
Lugo-López, M. A., 3487
Luickij, G. D., 298
Lukoschus, F., 1413e
Lukpanov, Z., 2586
Lumang, H., 617i, 2561
Lumnitzer, G., 1655t
Luna Moreno, C., 181a, 669z
Lund, H. A., 1655k
Lundberg, S., 346s
Lundstad, A., 716, 717, 719, 1751, 1753, 3776
Lunshof, H. J., 3957
Lunt, O. R., 1742, 3727, 3747, 3757, 3808, 3812, 3813
Lupo, V., 323
Lush, G. B., 3407o
Lutrick, M. C., 1561
Luttermoser, G. W., 3712p
Lutz, J. M., 801
Luyten, I., 2721, 3758
Lužeckij, S. N., 1225
Luzina, L. V., 3786
L'vov, S. D., 3166
Lyall, L. H., 3396
Lyamungu Coffee Research and Experimental Station, Tanganyika, 2857
Lynch, L. J., 1494
Lynch, S. J., 2767, 2774, 2780
Lynn, C., 3238
Lyssiotis, P., 2008i
Lyukova, L. A., 3703

Maatsch, R., 697, 698, 1728, 1739, 2751, 2762x, 3754
McAleer, W. J., 1669
MacAlpine, R. I., 2974, 2994d
MacArthur, M., 105, 3763
McAuliffe, C., 615
Maccaferri, E., 3085
McCall, W. W., 3489
McCambridge, J. R., 355
Maccario, G., 1782r
McCarty, C. D., 364, 1383
McClellan, W. D., 1731, 1733, 3780, 3781, 3782
McClung, A. C., 138, 3152
McClure, F. A., 670a, 2668
McColloch, R. C., 2779
MacCollom, G. B., 1469
McCollum, J. P., 3554
McCombs, C. L., 3583
McCready, C. C., 549
McDaniel, J. C., 2827w, 2225, 2240y
MacDaniels, L. H., 2240z
Macdonald, J. R., 2380d
McDonough, E. S., 2701
McEwen, F. L., 429
McFadden, S. E., Jr., 2739, 2741
McFarlane, G. C., 1873
Macfarlane, I., 3440
McFaul, J. A., 676
McGeorge, W. T., 143
MacGillivray, J. H., 3557, 3564
McGlasson, W. B., 1178
McGray, R. J., 2701
Machado S., A., 875
Maciejewska-Potapczykowa, W., 2631
McIlrath, W. J., 544
McIntyre, M. L., 3805
Mackay, J. H. E., 1744
McKay, J. W., 2227, 2230, 2235, 2241a
McKeen, C. D., 1547, 2424
McKern, H. H. G., 2671t
Mackiewicz, —., 3816a
Mackinney, G., 3559
MacLagan, D. S., 2393
McLane, S. R., Jr., 3089b
McLean, D. M., 1535, 3604o
McLean, R. C., 973
MacNab, J., 1058
McNaught, K. J., 1564
McNew, G. L., 1518
McNulty, I. B., 1241, 3034, 3035
Mácola, T., 3106
MacPhee, A. W., 1361
McQuown, F. R., 1782s, 2762y

Macself, A. J., 4029k
McTear, I., 2978
McWhorter, F. P., 2695, 2762z
Madamba, U. V., 2562
Mader, W. J., 2618
Madison, J. H., Jr., 1624
Madramootoo, H., 2528
Madras Department of Agriculture, 4021
Madsen, H. F., 327, 338, 1318, 1360, 2306, 2316
Madueño Box, M., 670b
Maeda, T., 1510, 3240q
Maertens, C., 905
Maestri, M., 2374
Maevskaja, A. N., 3066
Maggs, D. H., 2087w
Magie, R. O., 2714
Magill, P. L., 4006
Magness, J. R., 3095
Mahdi, M., 831
Maheswariah, B. M., 2309
Mahlstede, J. P., 687, 743f, 1384, 3003, 3730
Mai, W. F., 306
Maille, M., 3712a
Maingonnat, A., 241u, 241v
Mainstein, P., 2214
Majeríková-Hlaváčková, J., 3337s
Majstorović, G., 1187k
Majumdar, G. P., 743g
Makins, F. K., 1971
Malaguti, G., 911
Malan, A. H., 1240 l
Malaviya, B., 34
Malavolta, E., 3940
Malaya Department of Agriculture, 1995, 2840, 2911
Malbrunot, P., 1309
Malcolm, J. L., 1558, 2766
Maliga, P., 2182q
Mallach, N., 1371o
Mallik, P. C., 2886, 3997j
Mallikarjuneswara, V. R., 2921, 2922
Mallinjoud, H.-M., 743h
Mallo, R. G., 1862x
Maltese, A. E., 289
Mameli-Calvino, E., 1782t, 2763a
Mameli Calvino, G. E., 3713
Mancuso, B., 1117
Mandryk, M., 1638
Mándy, G., 600
Manefield, T., 2827x, 3892w
Manganelli Ranieri, A., 1699
Manickavasagar, P., 860
Mann, A. J., 3189t
Mann, G., 56
Mann, L. K., 1502
Mann, P. J. G., 1485
Mann, T. J., 2563, 3623
Manni, M., 3887
Mante, W., 70
Manzanilla, E. B., 638, 669f, 950f
Manzelli, M. A., 2685
Manzo, P., 226, 235
Manzoni, L., 241w, 241x, 1240m
Mapother, H. R., 2357
Marais, P. G., 19
Marcelli, E., 617j, 1655 l
Marcussen, K. H., 1782u, 2728
Marenkin, F. S., 3257
Margolin, A. F., 3189u
Margolis, D., 3090a
Mariconi, F. A. M., 3723
Marinkov, E., 2557f
Mariotti, A., 951b
Maris McArthur-Hespe, G. W. F., 2175
Markakis, P., 194
Markantonatos, A., 615
Markham, R., 2342f
Marks, J. D., 3171
Marlatt, R. B., 506, 1585z, 3544
Marloth, R. H., 3826
Marrè, E., 2047, 2087x
Marsh, R. W., 346t, 3278
Marsilii, H., 1413f
Martelli, G., 346u
Marth, P. C., 31, 1084t, 2035
Martin, E. C., 1356
Martin, H., 979
Martin, J. P., 676, 760, 838c, 838x, 1825, 2768, 2807, 3839
Martin, J. T., 904
Martin, L. F., 950r, 2994u, 3996r
Martin, P., 3068
Martin, W. J., 3594
Martin-Prevel, P., 2016
Martinelli, E., 1413a
Martinez, A. L., 2671j
Martinez, A. P., 2682
Martínez Andreu, A., 1338
Martinozzi, N. C., 1240n
Martins da Silva, D., 1960k
Marutjan, S. N., 2302
Marx, T., 2517
Mary, N. Y., 1701m
Marzec, T., 1253
Marzocca, A., 3406, 3700, 3701, 3702
Masefield, G. B., 2557g
Mashkovcev, M. F., 3634
Masiluñgan, V. A., 658
Mason, D. T., 3736
Mason, H. C., 1580
Massacesi, A., 2827z
Massal, E., 2829
Massee, A. M., 314, 2342g
Massey, P. H., Jr., 3437
Mastalerz, J. W., 1715, 3737
Masuda, K., 3982
Masuda, T., 477
Mathis, W. T., 136
Mathisen, C., 2763b
Mathur, P. B., 886
Mathur, R. S., 951c
Matienko, B. T., 437
Matsumoto, T., 1493
Matsuura, T., 2636
Matta, A., 2282
Mattarelli, D., 279
Matthews, L. J., 1413g, 3375
Matthews, W. A., 577e
Matthews, W. S. A., 1661, 1671
Mattus, G. E., 123
Matusiewicz, E., 1603, 1604, 2639
Matzner, F., 2168, 2169, 2201
Maughan, F. B., 317
Maunsell, G. M. B., 3664r
Mauritius Sugar Industry Research Institute, 3959
Mavrodineanu, R., 1084u, 3089q
Maxie, E. C., 2140, 3260
Maxwell, N. P., 3226, 3892y
May, C., 3791
May, E. B., 1905, 1906
May, P., 223, 2221
Mayer, K., 2342h
Mayer, L., 675
Mayer, R., 181g
Mayer-Hörster, L., 2706
Maynard, D. N., 3583
Mazery, G., 1960 l
Mazumder, P. K., 2836
Mazurova, T. A., 1475, 2557t
Meadly, G. R. W., 2356
Medcalf, J. C., 2866, 2869
Medina, J. C., 3689
Medina, L. H., 3604u
v. d. Meer, F. A., 269
Megli, V., 1116
Mehlenbacher, R. J., 181d
Mehta, S., 3664s
Mei, A., 670c
Meidner, H., 3040
Meier, W., 2453
Meigh, D. F., 3179
Mello, H. do A., 2763c
Mellor, F. C., 1371d, 3267
Melville, G., 374, 390i
Mendes, H. C., 3936
Mendes, J. E. T., 1960m
Mendes da Ponte, A., 951d, 1960n, 2864
Mendiola-Ela, V., 639
Mendoza, E. M., 2672k
Mengel, K., 1085b
Menges, R. M., 1409, 3402
Menke, K. H., 2853
Menninger, E. A., 2762u
Menon, A. K., 670d

Menon, K. P. V., 863, 951e, 951h, 2852, 2994s
Merchant, C. H., 1585u, 3173
Mercuri, S., 2241b, 2241c
Merendi, A., 2234
Merí, J., 805
Merker, J., 1613
Merny, G., 3996f
Merrill, S., Jr., 835
Merrill, T. A., 3247
van der Merwe, A. J., 3089x
Mes, M. G., 2833, 2834
de Mesa, M. U., 751
Mesquitela, J. C., 951f
Metcalf, R. L., 3892z
Meteorological Office, Air Ministry, London, 1972
Metro, A., 4029m
Meudt, W., 3053
Meyer, C. H., 2172
Meynhardt, J. T., 2342i
Mezzetti, A., 346v, 2334, 3246
Michel, E., 3654
Michel, F., 2828c
Michel, H., 1756
Michelbacher, A. E., 337, 2320, 2342j, 3301, 3313
Michelson, L. F., 3401
Michieli, G., 1345
Middelburg, H. A., 1605
Middelrode *see* s'Hertogenbosch
Mihajlov, K.—*see also* Mikhailov, M. K., 617k
Mihajlova, P. V., 204
Mijušković, M., 830
Mikhailov, M. K.—*see also* Mihajlov, K., 2615q
Milaire, H., 346w
Milbrath, J. A., 1266, 1267
Miles, J. R. W., 3603
Miles, M., 576x, 1585w
Milinkó, I., 555
Millare, V. E., 2672k
Miller, C. D., 845
Miller, C. O., 22
Miller, C. R., 2182r
Miller, D. B., 838i
Miller, E. E., 2082
Miller, E. J., 136, 1370
Miller, E. V., 499, 2994m, 2474, 3556
Miller, G. W., 1022
Miller, H. N., 2763r, 3816b
Miller, L. A., 3603
Miller, L. W., 1369
Miller, M. P., 1862o
Miller M., R., 3907
Miller, P. A., 1742, 3271
Miller, P. M., 292, 1282, 1287, 1305, 1723, 2342k, 2360, 2392
Miller, P. W., 1198, 1273
Miller, R. L., 1817
Miller, V. J., 1782v
Millikan, C. R., 743i
Millikan, D. F., 1263, 2252, 2266
Mills, I. K., 3337a
Mills, W. D., 1281
Mills, W. R., 2581
Milthorpe, F. L., 3004
Mimaud, J., 3356
Mimault, J., 2174
Minamikawa, J., 944, 1950, 1951
Minárik, E., 1359
Minges, P. A., 3454, 3455
Minister for Agriculture, Republic of Ireland, 3024f
Ministère d'Agriculture, Departement d'Horticulture, Israel, 2765
Ministère de la France d'Outre Mer, 2889
Ministry of Agriculture, Belfast, 3019
Ministry of Agriculture, London, 346x, 1002, 1084v, 1532, 2008k, 2727, 3019, 2110, 2146, 2182s, 2182t, 2380e, 2380f, 2493, 2557h, 3189v, 3261, 3337t, 3413, 3473
Ministry of Agriculture, Mexico, 2007
Ministry of Agriculture, Northern Ireland, 1996
Minnesota Agricultural Experiment Station, 1003f
Minnhaar, —., 2729
Minot, F., 3834
Minshall, W. H., 1373, 2351, 2352
Minshall, W. W., 3379
Mirčetić, S., 830
Mirimanjan, V. A., 1821
Mirto, G., 450
Mišić, P. D., 2182u
Miskus, R. P., 1360
Mississippi Agricultural Experiment Station, 993
Missouri Agricultural Experiment Station, 3020
Mitchell, A. E., 2336, 3189w
Mitchell, J. W., 31, 461, 1084t, 2035
Mitchell, R. S., 1494
Mitović, D., 208
Mitsui, M., 3983
Miyazaki, Y., 479
Mochizuki, T., 2126
Modebadze, V. P., 3299
Modlibowska, I., 1258
Moens, R., 346d
Mohammad, S., 3631
Möhrke, P., 3302
Moir, W. W. G., 913
Moje, W., 1825
de Mol van Oud Loosdrecht, W. E., 700, 2705, 2763d
Molin, G., 1808
Molle, A., 3938
Molnár, L., 2560
Molotkovskij, G. H., 2238, 2239
Monastero, S., 321
Mondoñedo, J. R., 617 l, 619
Monk, J. R., 1616, 1618, 2646, 2652
Monnberg, B. M., 3530
Monnet, J., 851
Montagnani, P., 1778, 1779
Montealegre, M., 1960o
Monteiro, J. da C., 4029m
Monteiro Salles, F. J., 2861
Montenegro, H. W. S., 3893a
Montgomery, H. B. S., 3278
Monti, L., 3316
Montilla, J. A., 2372
Montironi, R. A., 3882
Montserin, B. G., 3997b
Monzini, A., 1184
Monzón A., F., 3979
Mook, K., 838y
Moon, H. H., 134, 135, 3155
Moore, B. P., 1701n
Moore, E. L., 617m, 1655m, 2828q
Moore, J. D., 2341m
Moore, J. F., 377, 449, 3408, 3604v
Moore, J. G., 1797
Moore, M. H., 2342 l, 2342m, 3275
Moore, P. G., 3029
Moore, P. W., 1810, 1862y, 2787, 3850
Moore, R. C., 123, 2093, 2138
Moorefield, H. H., 3334
Mora Contreras, L. A., 3905
Mora Urpí, J., 1960p
Morais, F. R. P., 1960q
Moreau, C., 1848
Moreau, M., 682
Moreno, A. F., 3746
Moreton, B. D., 743j, 3691
Moretti, M. F. D., 3794
Morettini, A., 195, 346y, 817, 824, 1098, 2182v, 2819, 2820, 2827y, 2827z
Morgan, A. F., 1797
Morgan, A. H., 192
Morgan, O. D., Jr., 604, 605, 617n, 1640
Morgenthal, J., 2763e
Mori, H., 539, 3143
Mori, P., 3317
Moriarty, F., 1585o
Morishita, F. S., 677, 3725
Morita, N., 935
Morita, Y., 1144, 1145

Morris, C. J., 3532
Morris, L. G., 49, 66u, 2497
Morris, L. L., 443, 3472, 3517, 3582
Morris, M. P., 621, 3407p
Mort, C. H., 818
Morton, D., 666
Morton, H. G., 1701o
Moscoso, C. G., 1958
Moser, L., 231
Moškov, B. S., 401, 3477
Moss, R. I., 1887
Mosse, B., 2125
Mosse-Robinson, I., 3470
Mostafa, M. A., 466
Mothes, K., 3633
Mottier, P. P., 1585x, 2526
Moulsley, L. J., 2081
Mounat, A., 3608, 3625
Mounsey-Wood, B. W. L., 2407
Mrożewski, S., 1448
Mruk, C. K., 3373
Mrva, J., 241y
Mudaliar, C. R., 2343
Mueller, R. T., 3835
Mueller, W., 856
Muhina, V. A., 938
Mühlendyck, E., 2737
Mühlmann, R., 346z
van den Muijzenberg, E. W. B., 49, 1368, 3337u
Muir, E., 2051
Muir, R., 929
Mukasa, S., 1843, 1844
Mukasa, Y., 2966, 2968, 2969
Mukerji, B., 623, 2624
Mukherjee, K. L., 531
Mukherjee, S. K., 951g
Mukula, J., 1410
Mulder, D. P. J., 1724
Mulder, E. G., 1063
Mull, H. M., 385
Müller, G., 1246
Müller, H., 102, 2112, 2141
Müller, H. W. K., 3286
Müller, J., 4004
Müller, R., 1625
Mulligan, B. O., 1754
Münch, N., 3712g
Mune, T. L., 1413h, 2358
Mungomery, W. V., 2475
Munk, H., 2088e
Munnecke, D. E., 3803
Murata, T., 3512
Murawski, H., 2123
Murinson, B. Ju., 2771
Murneek, A. E., 1015
Murphy, H. J., 3483, 3488
Murphy Chemical Company, 345, 3327
Murray, H. R., 3742
Murtaza Sharif, M., 1242
Murthy, A. S., 1594
Murton, R. K., 347e
Murty, B. R., 2590
Musser, A. M., 1966
Mustard, M. J., 2780
Muthuswamy, S., 1218, 1240g
Mutō, T., 1149
Muzik, T. J., 844, 901, 1917, 2370, 3407p
Myers, J. M., 589
Myhre, A. S., 242c, 2183d
Myhre, D. L., 1615
Mynhardt, C. B., 787, 1824
Myrstad, A., 2557i, 2557j
Mysore Department of Agriculture, 1003g, 1997

N.A.A.S., 66n, 2000, 4029 l, 4029p
Nádasi, M., 732, 743k
Naegele, J. A., 1782w, 3784
Naito, N., 1295, 1355
Najima, H., 3893e
Nakagawa, H., 3435, 3604w
Nakamura, E., 1536
Nakamura, M., 2630
Nakasone, H. Y., 671, 679, 2762o
Nakata, S., 1854
Nambiar, K. K., 1955, 1960r
Nambiar, M. C., 865
Nanda, K. K., 35
Nankivell, W. I., 1187 l
Narasimhachar, S. G., 670e
Narayana, N., 3996u
Narayanan, B. T., 2995q
Narayanan, R., 2851
Narvestad, K., 420
Nash, S. W., 2101
Nasir, M. M., 1712
Natarajan, A. T., 1694
Nathanael, W. R. N., 1884
National Institute of Agricultural Engineering, 52
National Research Council of Canada, 2008h
National Rose Society of Great Britain, 2736
National Tôkai-Kinki Agricultural Experiment Station, 347a
National Vegetable Research Station, Wellesbourne, 4025
National Weed Committee, Canada, Eastern Section, 2380g
National Weed Committee, Canada, Western Section, 2380h
Natividade, J. V., 4029m
Natti, J. J., 3443
Naudé, C. P., 3351
Nauer, E., 1862y, 2787, 3850
Naumann, W., 3146
Naumova, A. N., 2386
Naundorf, G., 3903, 3912, 3915, 3916, 3917, 3918, 3919, 3997c
Navarre, P., 2673
Nayar, T. G., 2835, 2838
Naylor, A. G., 1960s
Neal, G. E., 2173
Neale, F. E., 2497
Neary, G. J., 3038
Nebraska Agricultural Experiment Station, 2008 l
Neff, M. S., 2825, 3891
Neilson, J. J., 357, 1395
Neiswander, R. B., 528, 1760, 3801
Nekrasova, T. V., 2772
Nelder, J. A., 1084w
Nelson, K. E., 3240b
Nelson, K. S., 737
Nelson, P. K., 1754
Nelson, R. O., 2780, 2988
Nelson, S. H., 105
Nemeth, L., 1655o
Neofitova, V. K., 1573
Neri, M., 3097
van Nes, A. R., 2069
Nessim, N. E., 3090b
Nesterov, Ja. S., 109, 1123
Nettles, V. F., 571
Neubert, A. M., 343, 3189x
Neumann, D., 2182w
Neururer, J., 1362
Neve, R. A., 643, 645
New York State Agricultural Experiment Station, 2008m, 4029n
New Zealand Department of Agriculture, 994
New Zealand Department of Agriculture, Horticulture Division, 181j
New Zealand Department of Scientific and Industrial Research (D.S.I.R.), 90, 164, 586, 650, 750, 995, 1084n, 2643
Newcomer, E. H., 2237
Newell, J., 2009
Newhall, W. F., 800
Newhook, F. J., 558, 559, 560, 2281, 2531
Newman, D. W., 1241, 3034, 3035
Newsom, D. W., 3822
Newton, W., 1311, 2322
Nezgovorova, L. A., 3072
Niavis, C. A., 1018
Nicholas, D. J. D., 3060, 4004
Nicholas, G. W., 3711
Nichols, C. W., 1291
Ničiporovič, A. A., 2087y
Nicol, B. M., 3997d

Nicol, H., 43
Nicolaisen, W., 552
Nicoll, C. P., 2120
Niederhauser, J. S., 1490
Nield, J., 1960t
Nielsen, J. P., 7, 3033
Nieman, R. H., 67c
Niemann, J., 2469
Niemöller, A., 2293
Nies, H., 1042
Nieser, O., 743 l
Nieuwstraten, J. P., 3001
Nigeria Department of Agriculture, 1003h, 4029o
Nigeria Federal Department of Commerce and Industries, Lagos, 3024c
Nijdam, J., 3005
Nijensohn, L., 2241k
Nijveldt, W. C., 3431
Nikolaeva, M. G., 743m
Nilsson, F., 1174, 2182x, 2251
Nirula, K. K., 867, 951e, 951h, 2994n, 2994s
Nishita, H., 1563
Nishiura, M., 774
Nitsch, C., 2049
Nitsch, J. P., 978, 1758, 2049, 3222
Nixon, R. W., 809, 810, 811
Nizi, G., 1643
Njoku, E., 1782x
Noda, A., 1606
Noll, C. J., 396, 3381, 3383, 3604x
Nolte, H.-W., 2321
Noonan, J. C., 2379
Nordan, T. D., 3354
Nordine, R. M., 3789
Nordmeyer, H., 1078
Norman, A. G., 3049
Norman, P. A., 1831
van Norman, R. W., 36
Norman, T. M., 2534
Normand, A. G., 3670
Noro, K., 1805, 1856
Norris, D. O., 1084x
Norris, F. W., 3481
Norris, R. E., 1862v
North, C., 67d, 3433
North-Coombes, F., 951i
Northern Ireland Agricultural Research Institute, Hillsborough, 2008a
Northern Nut Growers' Association, 3024d
Norton, R. A., 1200
Ností Nava, J., 669e, 670f
Nottingham University, School of Agriculture, 4024
Nour, M., 3148
Nour, M. A., 2449
Novakovič, V., 2267
Novickaja, T. N., 3858
N.S.W. Department of Agriculture, 1998, 3895
N.S.W., Department of Agriculture, Biological Branch, 265, 346c, 689, 699, 767, 1288, 1289, 1371b, 1782c, 1862e
Nusbaum, C. J., 2615t, 3653
Nuttall, V. W., 1414
Nyasaland Department of Agriculture, 580, 832, 933, 996, 1003i, 4022
Nyasaland Tea Research Station, Mlanje, 2964
Nyfeler, A., 3186
Nyhlén, Å., 2182y
Nylund, R. E., 390f, 3565
Nyrkov, N. V., 1219
Nystrom, C. W., 1084y

Občinnikova, L. M., 1522
Oberle, G. D., 2093
Obordo, R. A., 951j
Ocfemia, G. O., 635, 3997e
Ochavillo, E. A., 2870
Ochs, R., 1904
O'Connor, B. A., 1413h
Odescalchi, M., 229
Odincova, M. S., 1009
Odland, M. L., 396, 3604x
OEEC—*see* Organization
Office de la Recherche Scientifique et Technique Outre-Mer, 4028
Ōgaki, C., 1149
Ogata, K., 3512, 3518
Ogden, W. B., 1615
Ogg, C. L., 669x
Ohlrogge, A. J., 67e
Ohova, E. P., 2494
Ohta, K., 3860
Ojha, V. N., 2671u
Oka, H., 1655n
Okamura, T., 577g
O'Kelley, J. C., 3073, 3077
Oknina, E. Z., 1240k
Okudai, S., 331, 335
Oland, K., 144
Olasveengen, R., 2403
Oldén, E. J., 2262
Olejnik, M. M., 442
Oliver, J., 1610, 1611, 2585, 2615r
Oliver, R. W., 3816c, 3816d, 3816e
Olivier, O. J., 2181
Ollagnier, M., 892, 4004
Ollero, A., 1649, 1650
Olmo, H. P., 1240o, 2092, 3101, 3240n
Olsen, O. A., 1395
Olson, E. O., 1828, 3831, 3849
Olson, R. L., 1783g
Olsson, K., 3279
O'Neill, W. J., 3332
Ono, H., 1548
Oort, A. J. P., 2342n
Oostenbrink, M., 1435
Opitz, K. W., 2828a, 2828b
Opland, T. B., 144
Oppenheimer, C., 1865
Orchard, B., 3039
Ordžonikidze, N. P., 2793
Orel, L. I., 1553, 2501
Orellana, R. G., 844, 1877
Organization for European Economic Cooperation (OEEC), 3006
Orihuel, B., 805
Orillo, F. T., 2672j, 3421
Orlando, A., 1786, 2796
O'Rourke, F. L. S., 1076
O'Rourke, J. T., 1960u
Oršanskaja, V. N., 2793
Orteza, E. M., 641
Orth, H., 2375, 3385
Ortiz Ramirez, G., 2569
Osakabe, M., 1950
Osborne, P., 2557k
Oscos, M. N., 3308
Oseledec, N. N., 2566
Osipova, O. P., 501
Osservatorio Fitopatologico, Bologna, 1371p
Ossowski, L. L. J., 3712q
Ostapenko, V. I., 83
Oste, C. A., 1187q, 3893h
Østeby, A., 420
Oster-Volkov, N. N., 1062
Östlind, N., 2155
Ota, A., 2732
Otanes, F. Q., 636
Otanes, R. T., 2990
Oteifa, B. A., 1575, 3601
Otey, G. W., 3575
Otten, R. J., 3407q
Overman, A. J., 1434, 2396, 2471
Overstreet, R., 2472
Owen, E. B., 974
Owen, F. W., 3337x
Owen, P. C., 3648
Oxenham, B. L., 464, 2915
Oxley, T. A., 2087p
Ozaki, C. T., 537
Ozanne, P. G., 2516
Ozawa, H., 1066

Paci C., 181o, ,3712r
Paci, P., 451, 1512
Pack, A. B., 1646
Padilla, E. A., 3664u
Pag, H., 743r
Pagacz, E., 2862
Page, G., 310
Pal, B. P., 1585y
Palfrey, G. D., 358
Paliatseas, E. D., 2941

Pallas, J. E., Jr., 2087z
Palm, E. T., 1518
Palmer, J. G., 3791
Palmer, J. K., 599, 3638
Palmer, T. P., 1546, 3561
Palser, B. F., 544
Panadero Vidal, M., 670f
Panayotov, I., 2629
Pandalai, K. M., 863, 2852
Paneque, A., 1650
Panero, M. S., 1862z
Panigrahi, G., 742b
Panini, F., 1701p
Panouse, J. J., 3664t
Papazova, G., 2699
Paradis, R. O., 2310
Parameswaran, S., 67f
Pardy, A. A., 1755
Parent, B., 347b, 2298
Parfilova, M. E., 3598
Parham, J. W., 1413h, 2358
Paribok, T. A., 2460
París, R., 1663, 1664
Parish, D. H., 3972
Park, P. O., 940, 941, 942, 952c
Parker, K. G., 306, 1281
Parkinson, A. H., 2416
Parks, A. B., 1438
Parks, R. R., 169, 3256
Parmeijer, W. L., 1077
Parmentier, C., 2763f
Parmentier, G., 1534
Parra H., J., 1960v, 3089y, 3997f
Parrett, R., 2763g
Parris, G. K., 3773
Parsons, C. S., 2486
Parsons, P. S., 3428
Parsons, W., 1356
Partsch, G., 1453
Pasch, G. M., 2375
Pasquier, J., 514
Passecker, F., 181p, 2342o, 3098
Pastena, B., 3218
Pastore, R., 1240p
Pastoriza, R., 1169, 3168
Patel, G. I., 3240n
Patel, H. K., 3658
Patel, P. N., 3667
Patel, R. C., 3658
Patel, R. M., 3658
Pathak, S. P., 3712s
Paton, D. M., 3476
Patrick, R., 1846
Patron, A., 1153, 1850, 1863a, 2828c
Pattabhiraman, T. V., 872
Pattenden, W. C., 3626
Patterson, U. L., Jr., 2759
Paul, V., 1602
Paul, V. J., 951k
Paulin, A., 2176
Paunović, S. A., 2118, 2179
Pavićević, B., 329
Pavillard, J., 1631, 3647
Payne, M. G., 2040
Payne, P., 3899
Payne, T. M. B., 2437
Pazos, R., 2878
Pčelarov, V., 2432, 2433
Peabody, D. V., Jr., 390g
Peacock, F. C., 2545, 2546, 3600
Peairs, L. M., 1973
Pearce, E. T. S., 929
Pearce, S. C., 6, 3030, 3092
Pearch, L. C., 345
Pearse, H. L., 1600, 3640
Pearson, G. A., 460, 3840
Peck, N. H., 1431, 2064
Pecket, R. C., 3479
Pedersen, K., 3012
Peeters, F., 1764
Peglion, V., 2458, 2459
Pehoto, L. T., 185
Pelle, C., 831
Pellegrini, G., 8382
Pelletier, E. N., 3590
Pelletier, R.-L., 426
Pel'tihin, S. V., 1430
Pemberton, C. E., 3997g
Pence, R. J., 3892j
Pengelly, R., 3100
Penningsfeld, F., 1425
Pennisi, L., 839a, 839b
Pennsylvania Agricultural Experiment Station, 2008n
Pennsylvania, College of Agriculture, 617o
Penven, R., 3664w
Peral, M. T., 45
Péreau-Leroy, P., 2812, 2813, 2828d
Pereira, H. C., 3933
Pereira, J., 2994o
Peremans, L., 945
Pérez, J. E., 1782y, 3664u
Pérez, R., 1412
Pérez, V. M., 3941
Pérez-Arbeláez, E., 2671v
Pérez-Escolar, R., 3487
Perkins, D., 374
Perkins, H. J., 404
Perlusz, T., 1655o
Perraudin, G., 1172, 1442
Perret, J., 1321
Perrot, —., 414
Perrot, A., 3280, 3281
Perry, B. A., 3604o
Persing, C. O., 1644
Persson, A. R., 2403
Perti, S. L., 2653
Pesquiza, L. C., 2989
Pessanha, M., 3898, 3931
Peterburgskij, A. V., 2377
Peters, B. G., 3022
Peters, F. E., 951 l
Petersen, H., 3749
Petersen, H. I., 381
Peterson, P. A., 1792
Peterson, R. G., 3510
Petrenko, A. G., 1598
Petróczi, I., 576y
Petrosini, G., 2583
Petrosjan, F. G., 2302
Pew, W. D., 1585z
Peyer, E., 234, 241z, 1222, 1367, 2210
Pfeifer, R. P., 3337v
Pfeiffer, R. K., 3399, 3407j
Pflug, I. J., 1173, 2171
Philip, A., 2607
Philipp, F., 1586a
Philipp, W., 1320, 1621
Philipse, W., 153
Phillips, D. H., 563, 564
Phillips, J. S., 1885
Phillips, W. R., 126, 162, 168, 493, 3189y
Picard, —., 1385
Picard, M., 736
Picco, D., 2542, 3249
Pichel, R. J., 2890, 2897, 2994p
Pickering, G. B., 1661, 1671, 3680
Pienaar, W. J., 1084z
Pieniązek, S. A., 1131, 1255
Pieri, G., 271, 299, 301
Pierpoint, W. S., 1586b
de Pietri-Tonelli, P., 1772
Pijls, F. W. G., 3006
Pilet, P.-E., 1756
Pilgaard, A., 2250
Pillay, K. P., 627
Pilot, R., 1960w
Pimentel Gomes, F., 1902
Piñerio, A., 746
Piñero, M., 3997h
Pinheiro, E. D., 1892
Pirie, N. W., 2591, 3645
Pirovano, A., 20, 210, 242a, 2220, 3103
Pitanza, M., 839c
Pittman, D. W., 3706
Pittman, J. F., 2557 l
Pizarro, O. C., 2241k
Plaisted, P. H., 3089z
Plaisted, R. L., 478, 3516
Plant, W., 3347
Plant Protection Ltd., 59
Plantenziektenkundige Dienst, Wageningen, 839d, 2423, 2710, 3024e, 3337w
van de Plasse, J. B., 158
Plavšić-Gojković, N., 392
Plehanov, Ju. S., 1112
Plock, H., 347c, 2119
Plumridge, A. J., 725, 3816f
Poapst, P. A., 126, 162, 168, 493
Podešva, J., 1421, 1426

Podmogaeva, M. I., 3459
Pogell, B. M., 2615s
Pohjola, K., 1054
Poidevin, J., 1586c
Pointer, J. P., 2576
Pokorný, M., 1679
van de Pol, P. H., 2763h
Poliakoff, J., 670g, 2659
Poljanskij, N. A., 3070
Pollard, L. H., 2479
Polsinelli, M., 241f, 241g, 1240a, 2240i, 3240d
Poma Treccani, C., 172, 1170
Pomini, L., 1662
Pont, W., 2597
Pontovič, V. Ė., 1691
Poole, C. F., 3604y
Poole, S. J., 4029a
Popenoe, H., 1073
Popenoe, J., 2182z, 3821
Popov, M. D., 2564
Popov, V. I., 3439
Popowa, D., 3464
Porritt, S. W., 160, 163, 2323
Porter, C. A., 2599, 3090a
Porter, F. M., 2444
Portilla, A., 574
Portsmouth, G. B., 3986
Posnette, A. F., 266, 1264, 3266
Pospíšilová, J., 1526
Possingham, J. V., 1560, 2518
Post, J. J., 1443
Postlethwaite, J. D., 2497
Potter, G. F., 833, 835
Pouncy, A. J., 956
Pound, G. S., 1585s, 2584, 3605j
Pousa Bicudo, L., 2994q
Powell, B. D., 2845
Powell, D., 3337x
Powell, J. V., 3240o
Powell, N. T., 2615t
Powrie, W. D., 159
Praloran, J.-C., 3834
Prasad, A. R., 2956
Prasad, R. B., 3973
Prasad, R. S., 925
Prasad, S. N., 2956
Pratt, H. K., 3517, 3582
Pratt, P. F., 759, 1816, 1818
Prendergast, A. G., 2909
Prest, R. L., 457
Preston, A. P., 156, 181q, 2097, 2264, 3151
Preston, W. H., Jr., 461, 465
Prevot, P., 892, 2389, 2893, 2895, 3952, 4004
Prew, H. A., 2183a
Pribavkina, R. A., 79
Price, C. A., 3604z
Price, W. C., 1833, 2827s, 3585
Pridham, A. M. S., 3355, 3358
Pridham, J. B., 179
Pridham, T. G., 1371r, 1432
Priestley, G., 1449, 1508
Princ, Ja. I., 3292
Pringle, C. O., 2700
Pringle, J., 490
Priol, J., 115
Pritchard, A. E., 2690
Procenko, A. E., 1720
Proctor, J. M., 473, 3392, 3393, 3394
Proebsting, E. L., 2154, 3209, 3210
Proebsting, E. L., Jr., 2257, 3141, 3145
Prokof'ev, A. A., 1701q, 3703
Pronk, F., 2994r
Prost, A., 2671w
Pruitt, W. O., 3235
Pryor, R. L., 1731
Pucci, E., 2557m
Puccini, G., 680, 1716, 2687
Puffeles, M., 3090b
Pumpjanskaja, S. L., 765, 2435
Punsri, P., 2182f
Punzalan, E. C., 2606
Purseglove, J. W., 2008p, 3894
Purvis, C., 887, 890, 2898
Pussard, R., 3678, 3712t
Puttarudriah, M., 951m, 2309
Puzzi, D., 803, 852, 2796
Puzzilli, M., 617p, 617q, 617r
Pyriki, C., 1625, 2567

Quaas, R., 112
Quackenbush, G. G., 181s
Quaid, G., Sr., 929
Quak, F., 2688, 3444
Quansah, S. T., 2557n
Quartley, C. E., 577m
Quebec, Information and Research Service, 3605a
Quebec, Plant Protection Bureau, 3326
Queensland, Bureau of Sugar Experiment Stations, 1925
Queensland Department of Agriculture and Stock, 1999
Quesnel, V. C., 1882
Quiceno H., G., 3090c

R., G., 1932
Raabe, R. D., 2678
Raacke, I. D., 3605b
Rabb, R. L., 613, 1641, 2609, 2610, 3655
Rabe, R. B., 2655
Rabe, W., 282
Rabin, R. S., 3067
Raciti, G., 762, 839e, 839j, 2828e
Racovita, A., 3612
Rada, B. F., 2404
Rademacher, B., 390h
Radha, K., 951h, 2994s
Raeber, J. G., 617s, 3607
Raekelboom, E. L., 1673
de Rafols, W., 3699
Raggio, M., 38, 3090d, 3484
Raggio, N., 38, 3090d, 3484
Raghavan, T. S., 3997i
Raghavan, V., 951n, 1954, 2986, 3992
Raguini, J. R., 602
Raha, C. R., 3605c
Rai, G. S., 456
Rajagopalan, R., 950d
Rake, B. A., 3198
Rakitin, Ju. V., 1175
Ramadan, D., 1697
Ramakrishnan, C. V., 1823, 2828o
Raman, K. R., 1471, 3993
Ramanandan, P. L., 870
Ramanathan, R., 1240q
Ramaswami, K., 1960x
Rambelli, A., 3881
Ramp, R. M., 1960y, 2994t
Ramprasad, C., 2617x
Ramsfjell, T., 3337y, 4009
Rande, B., 2241d
Randhawa, G. S., 529, 2087s
Randolph, J. W., 1460
Ranganatha Rao, K., 2669
Ranganathan, S. K., 2653
Ranjan, S., 34
Rankoff, G., 2671y
Rao, A. S., 1668
Rao, J. S., 2343, 3876
Rao, M. S. S., 925, 3973, 3974
Rao, S. N., 1119
Rao, U. N., 1218, 1240q
Rao, V. N. M., 2991
Rao, Y. J., 2582
Rao, Y. R. S., 1960z
Rapista, E. A., 3685
Rappaport, L., 453, 502, 503, 1045, 2477, 2478, 3568
Raski, D. J., 308
Rasmussen, A. O., 1782d
Rasmussen, M. P., 3189z
Rasmussen, P., 2161
Rasp, A., 3273
Ratner, E. I., 1557
Ratvik, H., 420
Raucourt, M., 333
Rautavaara, T., 49, 1187m
Rauws, E. I., 2763h
de Ravel, G., 1586d
Raychaudhuri, S. P., 2552
Raymond, W. D., 837, 3709, 3710
Read, W. H., 3022
Rebello, D., 669v
Rebosio, A., 1407

Rebour, H., 839f, 1072, 1187n, 2183b
Rębowska, Z., 1416
Rebstock, T. L., 3090e
Reddi, K. K., 1655p
Reed, L. B., 576z
Reed, L. R., 354
Reeks, W. A., 1773
Rees, W. J., 2388
Reese, R. B., 3190a
Reeve, E., 535
Reeves, E. L., 1268
Refatti, E., 347d, 1244
Regeimbal, L. O., 134, 135, 3155
Regel, C., 2671z
Reggiani, F., 2102
Reghini, U., 241i
Rehm, S., 1913
Reichardt, A., 202
Reichel, M., 2183c
Reichert, I., 1827, 3893b
Reid, R. D., 188
Reid, W. J., Jr., 3605d
Reiling, T. P., 2447
Reimann-Philipp, R., 1738
Reinhold, J., 1418, 2088a, 2382
Reinken, G., 2152, 4004
Reis, A. J., 3939
Reisaeter, O., 743o
Reisch, K. W., 3733
Reitsema, R. H., 630
Reitz, H. J., 777, 1812, 2786, 3892t
Rejman, A., 1255
Rejmers, F. E., 2402
Rémy, P., 3108
Renard, W., 49
Renaud, M., 2764
Renier, A., 3608, 3617, 3635
Renkonen, O., 3712u
Repp, G., 452
Resing, W. L., 3957
Resnicky, J. W., 2017
Reuther, W., 1863b, 3837, 3893c
Revilla, V. A., 2557o
Revolo P., M., 2373
Reyes, R. S., 2561
Reyes V., M., 879, 2642
Reynolds, F. J., 777
Reynolds, H., 1438
Reynolds, J. D., 3394, 3400
Reynolds, J. L., 1376
Rhodes, A., 3720
Ribereau-Gayon, J., 1227
Ribosa Arno, P., 664
Rich, A. E., 254, 1272, 2557p
Rich, S., 3652
Richards, B. L., 3264
Richards, M., 1079
Richards, O. W., 4003
Richards, R. R., 1129
Richards, S. J., 768
Richardson, A. M., 1240r
Richardson, B. H., 485
Richardson, H. H., 1903
Richardson, J. M., 3682
Richardson, R. W., Jr., 1489, 3605e
Richardson, S. D., 3042
Richter, H., 976
Richterkessing, R., 2241e
Rick, C. M., 3559
Ridé, —., 3337z
Rider, N. E., 2066
Ridpath, M. G., 347e
Rieckehoff, I. G., 951o
Riehl, G., 1718, 2675
Riehl, L. A., 795, 3865, 3866
Riehm, E., 3999
Riera, A. R., 914
Rigby, F. L., 2648
Rijven, A. H. G. C., 1037, 1052
Riker, A. J., 2051
Rikovski, I., 517
Riley, J., 3922
Rincón, D. J., 2372
del Río Ibáñez, J., 670h, 670i
Ríos, A., 951o
Ríos, P., 2372
Ríos Vega, A., 3906
Rishbeth, J., 3900
Ritchie, A. E., 1655f
Ritchie, J. A., 3089c
Ritter, C. M., 1163, 2156
Rivals, P., 3240p
Rivera, C. T., 782
Rjabčun, O. P., 231
Rjabova, A. N., 1126
Roach, F. A., 3353
Roach, W. A., 2153
Roads Beautifying Association, 724
Robbins, W. J., 3090f
Robert, E., 414
Roberts, A. N., 1201, 2200, 3811
Roberts, D., 118, 1125
Roberts, E. A. H., 946, 951p
Roberts, E. J., 2994u
Roberts, E. T., 1517
Roberts, J., 345
Roberts, H. A., 3387, 3389
Roberts, L. W., 2088b
Robertson, G. W., 2087k
Robertson, J. S., 894, 2910
Robertson, J. S. M., 1923
Robertson, M., 3200
Robertson, R. N., 17
Robin, F., 1399
Robinson, E. I., 386
Robinson, E. L., 3370
Robinson, J. A., 691
Robinson, J. B. D., 365, 2867
Robinson, R. W., 3386
Roby, F., 3190b
Rocchetti, G., 951q
de la Rocha G., G., 237, 1109, 1855, 2828f
Rocha de Medina, A. E., 2994v
Roche, R., 218, 2295, 2319, 3315, 3338a
Rochecouste, E., 2367
Rodionov, A. P., 3110
Rodney, D. R., 839g, 2828g
Rodrigo, P. A., 2241f
Rodrigues Jünior, C. J., 2877
Rodriguez, J. L., 795
Rodriguez, O., 3824
Rodríguez, R. A., 3943
Rodríguez G., A., 1893, 2863
Rodriguez-Ortiz, S. J., 152
Rodríguez-Rodríguez, G., 3913
Rodriguez S., H., 2557q
Roelofsen, B., 1194
Roever, W. E., 1240s
Rogers, J. A., 2671n
Rogers, M. N., 2080, 2747, 3721
Rogers, W. S., 2077, 2198, 2199, 3113
Rohloff, I., 577a, 3753
Roldán, J., 914
Roll-Hansen, J., 408, 577b
Rollin, L., 1647
Rollins, H. A., Jr., 123
Romanko, R. R., 281
Romano, A., 2782, 2794
Romano, E., 550
Romaško, Ja. D., 2128
Romberg, L. D., 2109
Romero Castañeda, R., 2824
Romney, E. M., 3417
Roney, E., 1293
Ronzoni, G. L., 139
de Roo, H. C., 57
Rood, P., 2488
Roome, B. W., 3816g
Rootsi, N., 2150
Rorie, F. G., 3338b
Rosa, M., 827
Rosberg, D. W., 318
Rosborough, T., 428
Roschach, H., 3239
Rose, G. J., 345, 1068, 1961a
Rose, H., 1970
Rosemaund Experimental Husbandry Farm (N.A.A.S.), 4029p
Rosen, H. R., 2763i
Rosenberg, A. J., 2587
Rosenfeld, A. H., 1974
Rosewarne Experimental Horticulture Station (N.A.A.S.), 2000
Rosher, P. H., 2926
Rosi, O., 1772, 3305
Rosić, K., 454
Rosillo, M. A., 3307, 3656
Ross, A. A., 1803
Ross, E., 449

Ross, J. P., 2634
Ross, M. E., 2763j
Ross, N., 3313
Rosser, W. R., 3441
Rossetti, V., 289
Rossouw, D. J., 2602
Rota, P., 316
Roth, H., 1903
Rothamsted Experimental Station, 4023
Rothlin, R. E., 3153
Rouatt, J. W., 2437
Rouillard, G., 951r
Rounds, M. B., 1787, 1863c
Rovira, A. D., 2436
Rovskij, V. M., 1238
Rowe, G. A., 1162
Rowe-Dutton, P., 4007
Rowley, G. D., 2738
Roy, J., 2994w
Roy, R. S., 951u, 3997j
Royal Horticultural Society, 704, 707, 1775
Royal Tropical Institute, Amsterdam, 3021, 3024g
Rubber Research Institute of Ceylon, 900, 3997k
Rubber Research Institute of Malaya, 1390, 1920, 1921, 1922, 1961b, 1961c
Rubcov, I. A., 2795
Rubic, R. R., 2655
Rubin, B. A., 2028
Rubin, S. S., 3125
Rubin, V., 241j
Rubio, M., 1655q
Ruck, H. C., 98
Ruffaldi, G. B., 3132
Ruge, U., 3718
Ruggieri, G., 778, 839h, 2781
Ruhland, W., 975, 4008
Rui, D., 2821
Ruiz, T. P., 2990
Ruiz Gijón, J., 670h, 670i
Rumora, L., 1205
Rünger, W., 698, 714, 2734, 2749, 2751, 3816h
Rüppold, H., 1363, 2337
Russell, M., 2088c
Russell, R. C., 364
Russo, F., 752, 839i, 839j
Russo, G., 829, 2823, 3884
Ruyten, J. H., 2556d
Ryall, A. L., 167, 181r, 3183
Rygaard, S., 49
Rygg, G. L., 815
Ryndin, N. V., 3026

Saakov, S. G., 2674
Saanichton Dominion Experimental Farm, 997
Saccas, A. M., 1898
Sacher, J. A., 3044
Sachs, R. M., 2087e, 3051
Sadamori, S., 3143, 3190c
Sadasiuan, T. S., 67g, 2342p
Sadjiarto, R., 3366
Šafeev, N. G., 2672a
Sagawa, Y., 1736, 3728
Sahlström, H., 2195
Sahm, U., 2517
Said, M., 3997l
Saini, B. S., 573
Sainsbury, G. F., 170
Saito, K., 3715
Saitô, T., 440, 944, 1462, 3461
Sakazaki, N., 3798
Säkö, J., 2255
Sala, O., 1782y
Saldarriaga V., A., 2373
Salibe, A. A., 576h, 1585j, 3090g
Salmanov, A. B., 3230
Salminen, M., 1085a
Salokangas, K., 1507
Saltman, P., 2088d
Salunkhe, D. K., 2557r
Salvaterra, G., 1343
Salvioli, R. A., 3553
Samad, A. A., 2555
Samish, R. M., 1130
Samish, Z., 2814
Sammet, L. L., 1166
Samorodova-Bianki, G. B., 18, 1553
de Sampaio Barros, M., Jr., 3930
Šamsiev, K. Š., 1238
Samson, J. A., 745, 2828h
Samsonova, I. A., 2503
Samsonova, V. P., 2094
Samuels, C. E., 1348
Samuels, E. W., 95
Samuels, G., 1928, 2831, 2913, 2937, 3937, 3966, 3990, 3997m
San Juan, M. O., 639
San Martín Casmada, R., 670j
Sanborn, B. G., 3605f
Sanborn, R. R., 2306
Sánchez, J. A., 3844
Sánchez, L. C., 2369
Sánchez A., J. L., 2540, 2557o
Sánchez P., A., 468
Sanclemente, M., 3916, 3997c
Sander, H., 521
Sanders, F. R., 2857
Sandford, H., 3368
Sandvoss, H., 3338c
Sanford, K. H., 1361
Sankarasubramoney, H., 863, 2852
Sans, W. W., 3603
Santaolalla Azpilicueta, G., 236, 302, 324
Santini, R., Jr., 951s
Santocchia, A., 1717
Santolaya, H., 950n
Santoro, R., 2823
Sanwal, B. D., 2536
Saponaro, A., 802
Sapožkov, I. A., 3190d
Sapožnikov, D. I., 3066
Sarasola, J. A., 3216
Saraswathi-Devi, L., 67g
Sarawak Department of Agriculture, 4029q
Sardo, S., 789
Sarkar, S., 2660
Sarmah, K. C., 2975, 2979, 2980, 2994x
Sarmakešev, G. S., 2213
Sárosi, D., 246
Sasaki, S., 3240q
Sastry, A. S., 614, 3663
Sastry, K. S. K., 1692
Sastry, K. S. S., 951m, 1940
Sastry, L. V. L., 618
Sato, C. S., 1628
Sato, I., 3604w
Satō, K., 140, 755
Satô, R., 1951
Sato, T., 3240q
Satyanaranaswamy, G., 1952
Satyanarayana, M. N., 2672b
Sauda, —., 3948
Sauer, M. R., 1312, 3599
Saunders, G. W., 1577
Saure, M., 2763k
Sauvage, G., 1586e
Savary, A., 1344
Savčenko, N. A., 418
Savellano, N. S., 889
Savian, A., 3240c
Sawyer, R. L., 488, 3386
Sax, K., 96, 3127
Saxena, M. P., 3595
Sayed, M. Q., 281
Sayre, C. B., 1515
Sayre, R. M., 3707
Sazikin, U. V., 1128, 2190
Scaramella Petri, P., 33, 1214
Scaramuzzi, F., 130, 1113, 1187b, 1187o, 2260, 3120, 3877, 3878
Scaramuzzi, G., 274, 347f, 1261, 1278, 3249, 3338d
Scaranari, H. J., 1961d, 1961e, 3928
Scarascia, G. T., 596, 597, 2615u
Scarascia-Venezian, M. E., 597, 598
Sch., E., 1080
Schad, C., 1206
Schaffalitzky de Muckadell, M., 27
Schaller, A., 577c
Schalt, W., 2763k
Schander, H., 253, 1124, 2103, 2131

Schanderl, H., 1210, 2186
Scharpenseel, H. W., 2655, 2853
Scharrer, K., 1085b, 2088e
Scheepers, G., 787
Scheffer, R. P., 2537, 2538
Schein, R. D., 1250
Schenk, H., 743p, 1782z
Schindler, A. F., 684, 2342q
Schindlmayr, A., 3007
Schisler, L. C., 3504
Schlessinger, M. J., Jr., 458
Schlottmann, H., 3047
Schmadlak, J., 113, 256, 347g
Schmalfuss, K., 4008
Schmelzer, K., 2615n
Schmid, K., 2598
Schmidt, H., 1059
Schmidt, M., 2314
Schmidt, T., 1585f
Schmidt de Gil, J., 1860
Schmitt, L., 3202
Schmitz, G., 880
Schmitz, H., 2671m
Schneider, F., 1326
Schneider, G. W., 131, 1187p, 3152
Schneider, H., 776, 3853
Schneider, M., 3259
Schoenleber, L. G., 3704
Schofield, E. R., 3287
Schofield, R. C., 3348
Scholl, R., 2346
Scholten, G., 2708
Schoor, G. H., 3616
Schøyen, T. H., 4009
Schread, J. C., 1711, 1761, 1768, 3759
Schreiber, H. A., 2472
Schreiber, M. M., 3407q
Schroeder, C. A., 1798, 1961f, 3820
Schubert, O. E., 46
Schuch, K., 3263
Schuder, D. L., 2750
Schuldt, P. H., 1357
Schultes, R. E., 899
Schultz, H. B., 3256
Schulz, F., 184
Schuphan, W., 577d, 1154, 3047, 3434, 4014
Schuster, M. F., 3855
Schuster, M. L., 1696
Schutt, K., 1745, 3745
Schütz, F., 3796
Schvester, D., 3320
Schwabe, W. W., 24, 3734
Schwanitz, F., 3816i
Schwantes, G., 3816j
Schwartz, D., 1591, 1599, 3637, 3661, 3664f, 3664j
Schwartz, S. M., 3676
Schwartze, C. D., 242b, 242c, 2183d
Sciaroni, R. H., 1706, 3428, 3604f
Scotland, Department of Agriculture, 576i, 2461, 3015, 3019, 4029r
Scott, B. I. H., 3090h
Scott, D. H., 2197, 3192, 3201
Scott, F. M., 2557s
Scott, L. B., 611, 2608
Scott, L. E., 577e, 2182z
Scott, R. A., Jr., 23, 3057
Scott, V. H., 2088f
Scottish Horticultural Research Institute, 2095
Scrivani, P., 2822
Sealy, J. R., 729
Seatz, L. F., 590
Šebánek, J., 1422
Secrett, F. A., 1524
Šederov, S. G., 3442
Sedov, E. N., 100
Seegmiller, C. G., 1016
Seeley, J. G., 703
Seeman, J., 2071
Segalla, A. L., 3964
Seibert, R. J., 2088g
Seifried, G., 3816k
Seinhorst, J. W., 1312
Seitzer, J., 3008
Sekhara Varma, T. N., 2828o
Sekiguchi, A., 3311
Self, R. L., 1121
Selhime, A. G., 1836
Seliskar, C. E., 3495
Selman, I. W., 1033, 3586
Šemahanova, N. M., 3090i
Semal, J., 577f
Semel, M., 3669
Semenova, N. K., 2377
Sen, B. C., 951t
Sen, S. C., 2943
Sen, S. P., 3065
v. Sengbusch, R., 2023, 3212
Sepulveda, R., 2569
Sepúlveda Lozano, R., 3920
Sequeiros, J. M., 1610, 1611, 2585
Serini, G., 1185, 3190e
Serpa, D., 2828i
Serr, E. F., 2241g
Serra, F., 2554
Serranillos, M. G., 670k
Servant, M., 665
Servettaz, O., 2087x
Service de l'Agriculture de la Côte d'Ivoire, 2994y
Service de l'Agriculture du Togo, 2994z
Service d'Exploitation industrielle des Tabacs et des Allumettes, Paris (S.E.I.T.A.), 1587
Seshadri, V. S., 2835, 2838
Sethi, A. S., 2995a
Ševčuk, T. N., 2431
Sewell, G. W. F., 2279
Sexsmith, J. J., 1404
Seychelles Department of Agriculture, 3024h
Seyffert, W., 2707
Sforza, L. C., 3880
Sganzerla, M., 2715, 2722
Shadbolt, C. A., 2082
Shaffer, J. D., 181s
Shah, S. M., 669v
Shanks, J. B., 1709, 3806, 3807
Shantz, E. M., 978
Sharma, P. G., 2671u
Sharma, S. L., 2995b
Sharma, V. N., 2620
Sharp, P., 3090a
Sharpe, R. H., 91, 238, 1234, 2106, 2314t, 3104
Shaulis, N., 2215, 3191, 3354
Shaw, D. A., 541
Shaw, C. G., 1730
Shaw, H. R., 2995c, 2995d
Shaw, L., 2572
Shay, J. R., 2276, 2284
Sheard, G. F., 67h, 2088h
Shedley, D. G., 1333
Sheffield, F. M. L., 2995e
Shell Company of Venezuela, 998
Shepard, P. H., 2211
Shepherd, K., 848
Shepherd, R. J., 446
Sher, S. A., 2748
Sherman, M., 2704
Shewell-Cooper, W. E., 2
Shibutani, S., 577g
Shibuya, R., 2763 l
Shichijo, T., 774
Shifriss, O., 439
Shigeta, T., 1861
Shih, S. C., 2932
Shimokawa, M., 1548
Shimokoriyama, M., 1783a
Shimoya, C., 2724
Shimp, N. F., 2018
Shing, K.-C., 1912
Shinkaji, N., 786
Shirck, F. H., 486
Shneour, E. A., 3558
Short, G. R. A., 3022
Showalter, R. K., 2398
Shread, J. C., 2679
Shrivastava, D. L., 2671k
Shuel, R. W., 3748
Shukla, K. C., 951u
Shukla, T. N., 617f, 3664 l
Shull, A. V., 1828, 3849
Shutak, V. G., 181t, 2189, 3193
Sibilia, C., 342, 1371s, 2326
Sibray, W. S., 3779
Siddiqi, A. A., 3657
Siddiqui, S., 2672f, 2672g
Sidor, C., 322

Sidrak, G. H., 2388
Sidwell, A. P., 1197
Sieber, J., 3816 l
Siegel, A., 617t
Siegel, S. M., 3069
Siegelman, H. W., 3169, 3170, 3182, 3800
Sierra Leone Department of Agriculture, 2008o
Sifuentes, J. A., 1505
Sikka, S. M., 1585y
de Silva, C. A., 1918
Silva Fernandes, C., 1060
Simão, S., 1902, 3997n
Simard, J., 425, 426
Simmonds, F. J., 2854
Simmonds, N. W., 848, 951v, 1961g, 3815o
Simmons, T. H., 1417
Simone, M., 1360
Simons, J. N., 3587
Simons, R. K., 2124, 3251
Simpson, G., 3816m
Sims, W. L., 511
Sinclair, J. B., 3594
Singapore Botanic Gardens Department, 2008p
Singh, H., 3712d
Singh, H. B., 577h, 1541, 1585y
Singh, I., 617f
Singh, J. P., 2044, 2045, 2755
Singh, L. B., 1975, 2884
Singh, P., 1770, 1783b, 1863d, 2672c
Singh, R. N., 1975, 2884
Singh, S., 573
Singh, S. M., 2077, 3949
Singh, S. P., 2556a, 3604a
Sinha, R. B., 2694
Sinha, R. P., 3997j
Sinha, S. K., 1041
Šipilova, I. I., 2502
Širokov, E. P., 2406
Sironval, C., 1023, 3206
Sirotenko, A. A., 3634
Sirsi, M., 2671x
Sisakjan, N. M., 1009, 2088i
Šiškova, M., 2433
Sison, B., 2562
Sisson, R. L., 3220
Sites, J. W., 839k, 1820, 2773, 2775
Sitterly, W. R., 2284
Sívori, E. M., 3712v
Skalská, E., 1137
Skelding, A. D., 2088j
Skiebe, K., 1783c
Skiles, R. L., 2448
Skinner, C. G., 1527, 3537
Skinner, H., 1775
Skinner, J. C., 924
Skiver, R. E., 683, 1783d
Skobeleva, N. I., 2993h
Skotland, C. B., 2763s
Skvorcova, L. A., 3407r
Skvorcova, N. T., 577i
Slack, D. A., 2274
Slater, C. A., 2649, 3697, 3712j, 3712k
Slater, C. H. W., 2077, 2256
Slater, C. S., 3622
Slater, W. G., 2481
Slavoňovský, F., 2088k
Slavvo, A. V., 220, 3231
Sleeth, B., 3809
Slesareva, E. I., 1141
Slootweg, A. F. G., 1725
Slope, D. B., 3498
Slotboom, H. J., 3277
Slović, D., 2091
Šmatok, I. D., 1025
Smeets, L., 50, 106, 495, 1118, 1666
Šmerda, V., 3462
Smilie, J. L., 2380i
Smillie, R. M., 12, 13
Smirnoff, W., 1837, 3893d
Smirnova, A. N., 3411
Smirnova-Garaeva, N. V., 2183e
Smith, C. B., 9, 1483
Smith, C. C., 1773
Smith, C. E. M., 2944, 2945, 2995f
Smith, D. E., 2476
Smith, E. H., 3304
Smith, F., 1701k
Smith, F. F., 3726, 3780, 3781, 3782
Smith, F. G., 1085c
Smith, F. J., 1531
Smith, H. C., 1301
Smith, J. B., 3240r
Smith, J. D., 3767, 3770, 3771, 3772
Smith, K. M., 1976
Smith, L. C., 1342
Smith, M., 2401
Smith, N. K., 345
Smith, N. M., 2995g
Smith, P. F., 761, 2777, 3836, 3837
Smith, R. J., 798, 3022, 3893e
Smith, R. L., 455
Smith, W. A., 1577
Smith, W. H., 2187
Smith, W. N., 366
Smith, W. P. C., 1863e
Smith, W. W., 254
Smock, R. M., 122, 173, 2183f, 3181
Smoyer, K. M., 1863f
Šnejder, Ju. I., 1486
Snethlage, P., 1961h
Snyder, E., 211, 212
Snyder, J. H., 150
Snyder, W. E., 727
Šobek, J., 1236, 2228, 3254
Sobolev, N. K., 2213
Soboleva, I. M., 1430
Society of Chemical Industry, 3022
Soczek, Z., 1131
Soenen, A., 1285
Soesman, J. G., 3997o
van Soest, G. J. A., 154
Sohonie, K., 66y, 2556y
Sokoloff, B., 1863g
Solberg, R. A., 2014
Soldatenkov, S. V., 1475, 2557t
Soldatov, P. K., 1240t
Solov'eva, N. A., 2495
Solt, M. L., 3636
Somaliland Department of Agricultural and Veterinary Sciences, 4029s
Somers, E., 341
Somerville, A. M., Jr., 2686, 2763m
Sommer, N. F., 1165
Sommereyns, G., 1260
Somos, A., 53, 397, 421
Sondheimer, E., 242d
de Sonnaville, P., 117
Soost, R. K., 770, 1799
Sørensen, A., 2144
Sorensen, L. O., 1480
Sorge, P., 1191
de Sornay, A., 951w, 3962
Sorokin, H. P., 2088 l
Soteriades, C., 1986
Soto, C. A., 3943
Soule, M. J., Jr., 2888, 3821
Soundy, M., 3398
Sourdat, M., 839 l
South African Sugar Association, 1926
South African Sugar Journal, 3958
South Australia, Botanic Garden, Adelaide, 4029t
South Australia, Minister of Agriculture, 4029u
Southey, J. F., 2733
Southwick, F. W., 2151, 3154, 3158
Souty, J., 3190f
Sowell, G., Jr., 2425, 2529
Spangelo, L. P. S., 78, 3189d
Spangler, R. L., 1586f, 3088
Sparnaaij, L. D., 2902
Sparsiašvili, D. G., 3299
Spear, I., 3774
Specht, A. W., 2017
Spence, M. T., 1036
Spencer, D. M., 2658, 3604k
Spencer, E. L., 546
Spencer, H., 1836
Spencer, J. L., 884
Spencer, M. S., 1554
Spender, B., 2505
Speroni, H. A., 1800

Spetsig, L. O., 670 l
Spice, H. R., 166, 2490
Spickett, R. G. W., 1686, 2672d
Spoelstra, P. A., 2074, 3090o
Spoon, W., 1670, 2672e, 2995h
Sprague, R., 2280
Spraying, L. V., 345
Sprecher, E., 625
Sprent, J. I., 3480
Spriestersbach, D. R., 1701k
Spruit, D., 1670
Spurling, M. B., 1087
Spurr, A. R., 3453
Squibbs, F. L., 1450, 1472
Squires, J. A., 3709
Sreenivasaya, M., 2671k
Srinivasan, M., 618
Srivastava, D. P., 923
Srivastava, J. G., 1863d
Srivastava, P. D., 3978
van Staalduine, D., 3382
Stace-Smith, R., 3267
Stacey, E. C., 346f
Stadtherr, R., 390f
Staehelin, M., 1248, 1306, 2342r
Staff, C. E., 1071
Stafford, E. M., 3312
Stahl, C., 3024i
Stahmann, M. A., 1655r
Staikov, V. M., 2628, 2629, 2742, 2743, 2744, 2745
Stalder, L., 3796
Štambera, J., 3463
Stamper, E. R., 369, 374, 390i, 3369
Stańczak-Boratyńska, W., 1008
Stangler, B. B., 672
Staniland, L. N., 3508
Stankiewicz, Z., 523
Stanković, A., 2307
Stanley, W. L., 2828j, 3893f
Stanton, D. J., 554, 2523
Stapp, C., 976
Stark, F. C., 577e, 1464, 3581
Starks, K. J., 2308
Statens Førsogsvirksomhed i Plantekultur, 249, 347h, 548, 577j, 2147, 2148, 2191, 3338e
Staub, S., 909
Stautemas, E., 1765
Stearn, W. T., 1783e
Stearns, L. A., 347i
Steavenson, H., 673
Stedman, O. J., 3272, 3507
Steel, R. G. D., 3027
van Steenbergen, A., 2556e
Stefanelli, G., 1069
Stefani, A., 3240s
Steffens, G. L., 1609
Štefka, F., 201
Steib, R. J., 2947
Steigerwald, E., 2387
Steinberg, J., 4016
Steinberg, R. A., 1617, 2601
Steindl, D. R. L., 1935, 2995i
Steiner, A., 1130
Steiner, L. F., 3897
Steninger, M., 670 l
Stenseth, C., 483, 3297
Stepanova, A. M., 527
Stephens, J. M., 2313
Stephenson, M. L., 1622
Šterenberg, P. M., 2296
Sterling, C., 67i
Stern, A. M., 510
Steubing, L., 2623
Stevens, D. M., 1586g
Stevenson, E. C., 518
Stevenson, E. E., 373
Stevenson, F. F., 3847
Stevenson, G. C., 3997p
Stevenson, I. L., 2162
Steward, F. C., 978, 2723, 2730, 3764,
Stewart, I., 1819
Stewart, J. K., 506, 2487, 3544
Stewart, R. N., 684, 3815v
Steyn, W. J. A., 2088s
de Stigter, H. C. M., 3750, 3775
Stinson, F. A., 579, 2558
Stinson, R. F., 3719
Stippler, H. H., 3082
Stockey, F., 2087i
Stoddard, E. M., 292, 1305, 3743
Stoeckeler, J. H., 3790
Stoll, A., 670m
Stoll, K., 176, 3186
Stolle, G., 137, 2134
Stoller, B. B., 1496
Stolwijk, J. A. J., 3090j, 3090
Stone, L. E. W., 1521
Stone, M. W., 3533
Storace, G., 2827u
Storey, W. B., 1863h, 3816n
Stott, K. G., 670n
Stoughton, R. H., 40, 1085d, 3090 l
Stout, P. R., 547, 1085e
Stoutemyer, V. T., 2763n
Stover, R. H., 1961i
Stowe, B. B., 3090m
Strachan, C. C., 160
Sträter, G., 3090n
Straube, E., 1897
Strauss, E., 2240n, 3156
Strecker, B., 1284
Streef, G. M., 570
Street, H. E., 2088m
Streets, R. B., 715
von Strenge, H., 951x
Strickland, A. H., 2409
Stritzke, S., 102
Strohman, R. E., 816
Strong, R. G., 1530
Struble, F. B., 446
Struckmeyer, B. E., 3729
Strydom, J. C., 743q, 2763o
Stuart, N. W., 3800
van Stuivenberg, J. H. M., 3184
Su, N. R., 898
Suárez, P., 2369
Suárez de Castro, F., 1893, 2863, 2995j, 3997q
Subbaratnam, A. V., 2672f, 2672g
Subrahmanyan, V., 618, 3901
Subramanyam, H., 886
Suchá, M., 3605g
Suit, R. F., 3854
Sulochana, C. B., 67g
Šumakova, A. A., 2828k
Sumitomo, M., 1729
Summers, E. M., 844
Summers, F. M., 1360
Sun, V. G., 2933
Sundararaj, D. D., 1870
Sundararaj, J. S., 2835, 3123, 3668
Sunjic, K., 1645
Suriname Departement van Landbouw, 2008q, 3024j
Susini, E., 743r
Suszka, B., 734
Suszka, J., 255
Sutcliffe, J. F., 2059, 3078
Sutherland, M. D., 626
Šutić, D., 575, 3588
Šutov, D. A., 3562
Sutton, N. E., 2828 l
Suzuki, H., 1493
Suzuki, Y., 1478, 3475
Sveriges Yrkesfruktodlares Riksförbund, 181u
Swain, T., 2027, 3640, 3664k
Swales, J. E., 2277
Swaminathan, M. S., 1694, 2590
Swanson, C. R., 67j
Sweet, H. A., 3354
Sweetman, I. C., 3084
Swezey, A. W., 1413i
Swiatopolk-Mirski, A., 661, 669r, 669s, 669t, 669u, 2638
Swift, J. E., 338
Swift, L. J., 1851
Swinzow, H., 1153, 1850
Synge, R. L. M., 577k
Szasz, J., 510
Szczypiorska, J., 1416
Szkolnik, M., 2272, 2278, 2289
Szöke, S., 3666

Taal, M. M., 3090o
Tabayoyong, F. T., 918, 919, 950z, 951a, 1929, 1930, 1931, 2928, 2929, 3965

Tabin, S., 1441
Tabing, L. M., 487
Tabisz, J., 1676
Taboada, V. L. E., 1829
Tachibana, Y., 3798
Tadić, M., 3309
Tadulingam, C., 2343
Tager, J. M., 1876
Takahashi, K., 1199, 1806
Takahashi, T., 934, 935, 937, 3985
Takai, H., 663
Takayanagi, H., 939, 2970
Takeo, T., 1960f, 3988
Takeshita, S., 1149, 1811
Tallarico, G., 2621, 2672h
Tamayo, B. P., 3421
Tamés, C., 45
Tamhane, R. G., 3712 l
Tanada, T., 1085f
Tanada, Y., 430
Tandon, J. N., 2939
Tandon, O. B., 2438
Tandon, S. L., 2762a
Tanganyika Agricultural Corporation, 2008r
Tanganyika Sisal Growers' Association, 642
Tani, T., 1295, 1355
Tao, J.-T., 2183g
Taper, C. D., 2245
Tapio, E., 1708
Tapley, W. T., 3573
Taris, B., 1771
Tarjan, A. C., 2804, 2828m, 3893g
Tasmanian Department of Agriculture, Plant Pathology Division, 1371q
Tatchell, A. R., 646, 2650, 3696, 3712k
Tatebe, T., 3528
Tave, J., 3424
Taylor, A., 3022
Taylor, B., 3766
Taylor, C. F., 1371t
Taylor, E. A., 3780, 3781, 3782
Taylor, G. A., 8
Taylor, G. S., 3652
Taylor, J., 2763p
Taylor, J. W., 3109
Taylor, O. C., 794, 839m, 1793, 1863i, 2336
Taylor, R. E., 3287
Taylor, R. H., 1307, 2783, 3293
Taylor, W. C., 2556x
Tea Research Institute of Ceylon, 2961, 3986
Tea Research Institute of East Africa, 932
Teakle, D. S., 409
Teixeira, E. F., 1900
Teixeira Mendes, J. E., 1961j
Tejwani, K. G., 3662
Telles, J. de Q., 2995k
Tepe, W., 2088n
Terman, G. L., 590, 1463
Terpstra, W., 1032
Terraciano, L. C., 3105
Terts, I., 245
Terzaroli, A. L., 3486
Tesche, W. C., 3240t
Tešić, T., 1341
Teterev, F. K., 181v
Teubner, F. G., 524, 1551, 2056, 3489, 3566, 3567
Teuscher, H., 1762
Tew, R. P., 2339, 3022
Tewfik, M., 1245
Thate, R., 1274
Théau, A., 3815j
Theron, C. J., 242e
Thévenin, L., 391, 513
Thiele, I., 1094, 3190g
Thiem, E., 325
Thill, H., 607
Thimann, K. V., 1402, 1622, 2039, 2088o
Thirion, F., 1919
Thomas, F. B., 1163
Thomas, G. S., 3816o
Thomas, H. R., 3605p
Thomas, J. D., 1459
Thomas, M. D., 4006
Thomas, M. O., 3605h
Thomas, P. K., 870
Thomas, P. T., 474
Thomas, R. G., 67k
Thomas, W. D. E., 339, 341
Thomason, I. J., 1576, 2557d
Thompson, A. E., 509
Thompson, B. D., 496, 2398
Thompson, F. C., 643, 648, 649, 654, 3712w
Thompson, H. A., 2934, 2938, 2995 l
Thompson, J. B., 3469
Thompson, J. F., 3532
Thompson, J. P., 1468
Thompson, J. T., 370
Thompson, L. M., 1977
Thompson, W. L., 2792
Thomson, R., 1616, 1618
Thor, E., 2828n
Thorn, W. A., 1788
Thorne, G. F., Jr., 2572
Thorne, G. N., 432, 1085g
Thornton, N. C., 844
Thorpe, E. F. J., 837
Thresh, J. M., 1635
Thresh, R., 978
Thrower, L. B., 1880
Thung, T. H., 1655s
Thurston, R., 2308
Tichit, M., 2995m
Tichý, S., 3462
Ticknor, R. L., 3138, 3357, 3359, 3810
Tietz, H., 346z, 3336
Tilgate Research Station, 362, 363
Timmel, T. E., 2670
Timofeeva, I. V., 501
Ting, S. V., 2811
Tinsley, I. J., 1197
Tirelli, M., 2342s
Tisdale, S. L., 3623
Tisnès, P. J., 1651, 3664v, 3664w
Tkačenko, G. V., 3253
Tobacco Research Board of Rhodesia and Nyasaland, 579
Tod, H., 740
Todd, F. A., 584, 585, 617u, 2571, 2605, 3664x
Todd, G. W., 839n
Todd, M., 1085i
Toenjes, W., 1150
du Toit, J. L., 1933, 2935
Tokarskaja (Merenova), V. I., 1019
Tolbert, N. E., 3058, 3538
Tolentino, L. J., 950c
Tolhurst, J. A. H., 1944, 3986
Tolibas, P. C., 670o
Toll Jubés, J. G., 1187q
Tolnay, P., 1655t
Tolsma, S., 489
Tomaselli, E., 1007
Tomašević, B., 319
Tomkins, J. P., 3208
Tomkins, R. G., 3503
Tomlinson, J. A., 1533
Tomlinson, W. E., Jr., 3322
Tong, T. H., 2918, 2919, 3997r, 3997s
Toohey, C. L., 2995n
Toole, E. H., 491, 1495
Toole, V. K., 1495
Toothill, J., 1044
Toovey, F. W., 887
Topalović, G., 1371u
Topper, B. F., 1879
Topps, J. H., 2657, 2658
Torii, H., 2972, 3996m
Torres, S. C. A., 803, 852, 2368
Torrey, J. G., 39, 3090d
Torti, M., 2557u
Toscani, H. L., 3818
Tosello, R. N., 1961k
Toth, S. J., 1061
Toul, V., 1526
le Tourneau, D., 1085h, 2345
Touzeau, J., 3593, 3885
Tōyama, S., 3131
Toyama, Y., 663
Traaen, A. E., 2557v
Trabalzini, N., 224
Travert, J., 1842
Treggi, G., 567
Treshow, M., 1371v

Tressler, D. K., 3009
Trevett, M. F., 2347
Trickett, E. S., 1075, 2081
Trioreau, P., 3114
Trippett, S., 1698
Trippi, V. S., 3893h
Tritton, S. M., 977
Trkula, D., 617c
Trocmé, S., 736, 3243
Trojer, H., 871
Trought, T. E. T., 2604
Troutman, J. L., 3644
Trueba, J., 209
Trupin, F., 1391
Tryon, M., 2995o
Tsalpatouros, A., 855, 1875
Tsao, P. H.-T., 3329
Tserling, V., 4004
Tso, T. C., 2592, 3628
Tsukamoto, Y., 701, 1734
Tuboi, Y., 1585q
Tucay, E. A., 950g, 2871
Tucci, S., 3338d
Tucker, B. D. A., 345
Tukey, H. B., 67 l, 398, 3090p, 3138
Tukey, H. B., Jr., 3090p
Tukey, L. D., 2130
Tullio, V., 3306
Tunisie, Service Botanique et Agronomique, 999
Tupicyn, D. I., 2136
Turchi, A., 577 l
Turel, F. L. M., 1050
Turica, A., 1270, 1336, 1862x
Turmel, J.-M., 3816p
Turner, D. H., 2557k, 3240u
Turner, D. J., 948
Turner, E. R., 577m
Turner, J. S., 1085i
Turno Rotini, O., 2088p
Turrell, F. M., 2127, 3868
Turtle, E. E., 3022
Tydeman, H. M., 2122
Tymko, M. M., 1239
Tysdal, H. M., 1690
Tysser, H. F., 2001

Ueda, K., 1950
Ueki, K., 1477
Ueno, K., 1737
Uganda Department of Agriculture, 3024k
Uhlenbroek, J. H., 3407m
U Huan-Juan', 1586h
Ulrich, R., 1181, 2088q, 2174, 2176
Umali, D. L., 635, 2640, 2671c, 2672i, 2672j
Umhauer, M., 1111
Underwood, V. H., 242f
Urquijo Landaluze, P., 236, 302
U.S. Department of Agriculture, 951y, 1107, 2008s, 2827a, 3190h, 3240v, 4029v
U.S. Department of Agriculture, Agricultural Marketing Service, 2178
U.S. Department of Agriculture, Agricultural Research Service, 2827a
U.S. Department of Agriculture, Foreign Agricultural Service, 951y, 2830, 2959, 2995p
Usman, S., 951m, 1940
Utermark, H., 2143
Uzzan, A., 831

Vagt, W., 2342t
von Vahl, E., 181w
Vaidyanathan, L. V., 2995q
Vail, J. W., 3896
Vaitekunas, A. A., 1653, 1654
Valdeyron, G., 1127
Valenta, F., 230
Valentine, D. H., 2763q
Vallega, J., 3105
Vallejo y Vallejo, E., 1672
Valmayor, R. V., 2672k
Vámosi, J., 2441
Vance, A. M., 1783f
Vanderweyen, A., 3671
Van Duyne, F. O., 2088r
Van Gundy, S. D., 2421
Van Horn, C. W., 3604 l
Vanicek, K.-H., 2241h
Van Middelem, C. H., 1585v, 1641
Vannier, S. H., 2828j, 3893f
Van Roechoudt, L. L., 1187r
Vanselow, A. P., 2019
Vanwetswinkel, G., 2304
Varadarajan, E. N., 3668
Varela Martínez, R., 3997t
Vargas S., R., 1491, 2557o
Varma, T. N. S., 1823, 2828o
Varner, J. E., 3171
Varney, E. H., 3338f
Vartanjan, M. D., 2263
Vary, K. A., 1067
Vaščenko, S. F., 2414
Vasiljević, L. A., 3314
Vasseur, R., 3320
Vaughan, E. K., 1273
Vávra, M., 1140
Veerman, J. A., 3090q
Vega, J., 1328, 2203, 3213
Vega, M. R., 711
Veiga, F. M., 951z
Veiga, M. J., 302
Veihmeyer, F. J., 149, 2158
Velasco, J. R., 634, 864
Velazquez Diaz, J., 823
Veldhuis, M. K., 1851
Veldstra, H., 978
Velikanova, E. V., 2241i
Veneroso, G., 2183h
Venezia, M., 2328
Venkatakrishniah, N. S., 1961 l, 2995r
Venkatanarayana, G., 2343
Venkataraman, K. V., 3662
Venkataramani, K. S., 952a, 2981
Venkataratanam, L., 1952
Venketram, T. M., 1956
Ventura, E., 333
Venugopal, S., 3994
Verdier, E. T., 2088s
Verdura, R., 616
Vereščagin, B. V., 1335
Vergani, A. R., 806, 1839, 1841, 1863j, 3863, 3867
Verghese, E. J., 870
Vergnano, O., 1428, 1763
Vergnes, A., 2208, 3294
Verguin, J., 1701r
Verkerk, K., 525, 2500
Verma, B. S., 1513
Verma, G. S., 2887
Verner, L., 3190i
Verona, O., 272, 2333
Versleijen, G. M. J., 2088t
de Verteuil, L. L., 3904
Verzele, M., 1684, 3695
Verzilov, V. F., 2771
Vespignani, A., 330, 3246
Vestal, E. F., 2855
Viacava, L., 3816q
Viado, G. B., 667, 782, 2606, 2842
Vickery, H. B., 599, 2030, 3638
Vickery, L. S., 1608, 2611
Vickery, R. K., Jr., 1783g
Victoria, H. P., Jr., 3965
Vidal, J. L., 300
Vidal, J. P., 3338g
Vidal, P., 2672 l
Vidal Martín, D., 1501
Vidal Súarez, M., 3908
Viégas, A. P., 1894
Vieitez, E., 1233
Viel, G., 333
Viets, F., Jr., 2440
Vigorov, L. I., 1065
Villamizar J., A., 2615v
de Vilmorin, R., 393, 1539, 3548
Vimba, B., 3438
Vince, D., 2088u, 3090 l, 3736
Vincent, L. E., 814
Vinničenko, V. I., 198
Violante, C., 1240u
Virgin, H. I., 1085j
Viso Rodríguez, A., 911
Visser, T., 88, 89, 2756, 3987
Vitolović, V., 1115
Vittum, M. T., 2064, 3573

Vivoli, T., 1240v
Vjunov, S. F., 2132
Vlamis, J., 2482
Vlasov, Ju. I., 2524
Vlček, F., 1526
v. d. Vliet, M., 577n, 2462
Vlitos, A. J., 3053
Voderberg, K., 2052
Voevodin, A. V., 2349
Vogel, G., 48, 1085k, 2072
Vogel, R., 1232, 1863k, 2828p
Vogel, W., 1325, 1326, 3300, 3319
Voigt, G. K., 980
Volkova, N. K., 2100
Volodarskij, N. I., 1614
Vološin, M. P., 2758
Voroncov, V. V., 2977
Voronova, A. E., 1420
de Vos, L., 2846
Vos, N. J., 3555
van de Vrie, M., 313, 346p, 1371w
de Vries, E., 3705
Vuittenez, A., 2268

Wade, E. K., 241r
Wade, G. C., 1292, 1296, 1297, 1298
Wädenswil Horticultural Research Station, 2002
Wadsworth, W. S., Jr., 1655u
Wager, V. A., 3605i
Waggoner, P. E., 577o, 2342k, 3592
Wagner, E., 3223
Wagnon, H. K., 1269
Wain, R. L., 67m, 978, 1044, 2380j, 2657, 2658, 3046, 3604k
Wakisaka, I., 264
Waldo, G. F., 1198
Walker, E. K., 2611
Walker, J., 3795
Walker, J. C., 1585s, 2421, 2544, 3605j, 4010
Walker, L. C., 1020
Walkof, C., 1414
Wallace, A., 455, 459, 2776, 3835
Wallace, J. M., 839o, 1271, 1794, 3851
Wallace, R. H., 1160
Wallace, T., 979, 4004
Wallen, V. R., 3414
Wallihan, E. F., 763
Wallis, J. A. N., 3932
Walls, I. G., 1085 l
Walter, J. M., 577p, 577q
Walter, T. E., 3986
Walter, W., 2249
Wander, I. W., 1813, 2775
Wang, C.-C., 1934
Wang, C. H., 1177
Wang, H., 853
Wang, S.-C., 915, 916, 917, 920, 952b
Wanscher, J. H., 1006
Ward, H. S., Jr., 1121
Ward, J. B., 837
Ward, J. R., 1292
Ward, J. T., 1
Ward, K. M., 2504
Ward, W. E., 1085m
Wareing, P. F., 37
Warington, K., 1085n, 3490
Waris, H., 1484
Waritz, R. S., 2615p
Warnock, R. E., 1064
Warren, G. F., 1398
Warren, J. C. R., 389, 1413j
Washington Agricultural Experiment Stations, 1003j
Washington State College, 2003
Washington State Fruit Commission, 3096
Wasscher, J., 743s
Wassink, E. C., 3090r
Watanabe, A., 3983
Watanabe, R., 132
Watanabe, S., 1510, 1511
Watanabe, T., 1152, 1861
Watson, D. J., 3004
Watson, D. P., 721, 1702
Watson, G. A., 643, 670p
Watson, J., 1616, 1680, 2645
Wattle Research Institute, Pietermaritzburg, 2004
Watts, A. T. J., 3124
Waxman, S., 1758
Waygood, E. R., 2024
Waywell, C. G., 379
Weaver, M. L., 2341p
Webb, A. J., 433, 463, 1571, 1722
Webb, F. W., 2088v
Webber, R., 1082
Weber, A., 548
Weber, G. F., 2341f
Webster, B. N., 940, 941, 942, 952c, 3987
Webster, G. C., 3090s
Webster, W. J., 223, 2221
Weca, 155
Weckel, K. G., 3423
Wedding, R. T., 795, 809, 3467, 3571, 3865
Weeks, D., 150
Weeks, W. D., 2151, 3154, 3158
Wegenaar, C., 3090t, 3324, 3337p
Wehlberg, C., 2948
de Weille, G. A., 2983
Weinberger, J. H., 260
Weinmann, I., 577r, 3434
Weinmann, W., 3047
Weinstein, L. H., 32, 2599, 3785
Weir, F. J., 1414
Weisoeth, G., 2412
Weiss, G. M., 3117
Weiss, J., 1221
Weissenborn, K., 2183i
Welch, J. E., 1529, 3540
Welkerling, E. M. L., 1187s, 1187t, 1240w, 3190b
Welkie, G. W., 2584
Wellensiek, S. J., 1978
Wellesbourne, National Vegetable Research Station, 4025
Wellington, R., 1209
Wellman, F. L., 844, 877
Wells, C. G., 2568
Wells, D. A., 1075, 2068
Wells, J. S., 741
Wene, G. P., 485, 3450, 3602
Wensley, R. N., 1300
Wenzel, F. W., 2778, 2828q
Werminghausen, B., 2244
Wertheimer, M., 1852, 1853
Weschcke, C., 2231
West, E., 2763r
West, J. A., 3893i
West African Cocoa Research Institute (W.A.C.R.I.), 2839, 3902
West African Institute for Oil Palm Research (W.A.I.F.O.R.), 2891, 2892
West of Scotland Agricultural College, 2008t
Wester, R. E., 462
Western Canadian Society for Horticulture, 4011, 4029w
Western Samoa Department of Agriculture, 4026
Westgate, P. J., 1456
Westmoreland, W. G., 2380k
Weston, E. W., 645, 651
Weston, R. G., 1669
Westrop, A. R., 371
Westwood, M. N., 3190j
de Wet, A. F., 3089x
Weybrew, J. A., 615
Weydahl, E., 577b, 1586i
Wezelenburg, P. A., 1103
Wezenberg, H. J., 1703
Whaley, R. B., 1068
Wharton, D. C., 2527, 3584
Wheatley, S. M., 952d
Whellan, J. A., 1324, 2557w, 2615w
Whitaker, T. W., 1585g, 1586j
White, D. G., 1349, 1350, 3159, 3163
White, E. S., 1371c
White, G. C., 2359
White, N. H., 2342u

White, R. G., 1380
White, T., 3712x
Whiting, G. C., 2192
Whitner, B. F., Jr., 2557x
Whittaker, E. C., 103
Whittle, R. M., 67n
Whitwell, J. D., 125
Wianko, M. R., 390j
Wibaut, J. P., 3712y
Widmoyer, F. B., 718, 1702
Wiederspahn, F. E., 3245
Wieland, P. A. T., 3820
Wiersema, G. P., 3083
Wierszyllowski, J., 2165
Wiggell, D., 482, 3447
Wight, W., 952e, 2958, 2994e
Wightman, F., 978, 1044, 3046
Wightman, G. M., 2930, 2944, 2995s
van Wijngaarden, A., 3325
Wilbaux, R., 3997u
Wilcox, H. J., 1543
Wilcox, J., 1582, 2548, 3500
Wildbolz, T., 1325, 1326, 1334, 1365, 3319
Wilde, S. A., 980
Wildman, S. G., 617t, 3641
Wiley, R. C., 417
Wilhelm, S., 294
Wilhelminadorp, Proefstation Fruitteelt Volle Grond, 1188
Wilkinson, B. G., 2163
Willam, A., 3505
Willard, C. J., 386
Wille, J. E., 2802
Willet, J. R., 846, 2873
Williams, A. J., 1160
Williams, A. H., 181x, 1452, 3090u
Williams, C. F., 242f, 3240x
Williams, C. G., 181y
Williams, D. E., 2482
Williams, E. B., 2276, 2284, 3204
Williams, H. E., 1266, 1267, 1371x
Williams, I. H., 4024
Williams, K., 2277
Williams, M. C., 3344
Williams, P. H., 3591
Williams, R. R., 2096, 3248
Williamson, W. T. H., 490
Willis, J. L., 2671t
Willis, W. W., 3714
Wills, P. A., 951 l
Wilson, C., 3398
Wilson, D. J., 2116, 2199
Wilson, E. E., 1250, 1291
Wilson, E. M., 1433
Wilson, G., 1939
Wilson, G. J., 1294
Wilson, J. D., 407, 566, 1519, 2530, 3458, 3527, 3589
Wilson, J. F., 2644
Wilson, J. W., 1585v
Wilson, R. W., 588
Wilson, T. V., 3089 l
Wilson, W. F., 2422
Wilson, W. F., Jr., 1240b
Wiltshire, G. H., 3493
Winfree, J. P., 1562
Wing, R. E., 1862h
Wingard, R. G., 1350
Winocour, E., 1827
Winstead, N. N., 1735, 2763s
Winter, E. J., 3605k
Winter, G., 2665
Winter, J. D., 2324
Winters, H. F., 885
Wisconsin Agricultural Experiment Station, 2008u
Wise, K. A. J., 3740
Wishart, R. L., 3338h
Wisniewski, A. J., 3374
Withers, R. B., 3873
Withrow, R. B., 21
Witte, K., 49, 406
Wittwer, S. H., 398, 502, 503, 524, 1047, 1551, 2034, 2478, 2556z, 3054, 3056, 3090p, 3489, 3566, 3567
Wlassjuk, R. A., 4004
Włodek, J., 1147, 1253
Włodek, L., 1147
Wohler, H. W., 3458
Wolcott, G. N., 1867
Wolf, C. N., 1357
Wolf, E., 213
Wolf, F. T., 1085o, 2753
Wolf, P. A., 347j
Wolfe, H. H., 390g
Wolfe, H. R., 3338i
Wolfenbarger, D. O., 3724
Woltz, S. S., 2692, 2712, 3361
Woltz, W. G., 592, 2576
Wong, P. P., 2791
Wood, C. A., 3200
Wood, D. J., 946
Wood, F. C., 1586k
Wood, G. A. R., 2845
Wood, G. W., 1371y
Wood, J., 3363
Wood, J. C., 577k
Wood, J. P., 2008b, 4012
Wood, P. D., 1445
Woodbridge, C. G., 3247
Woodford, E. K., 3407s
Woodham, R. C., 248
Woods, J. J., 1089
Woodville, H. C., 708, 2726, 3762
Woolley, J. T., 2516, 3576
Woolliams, G. E., 3520
Wooltorton, L. S. C., 2167
Workman, M., 3582
Wormer, T. M., 1904, 2905
Worthington, T., 2197
Wouters, O. D., 3190b, 3190k, 3893j
Woyke, H., 1416, 1470
Wright, C. S., 3011
Wright, D. M., 3010
Wright, D. W., 3451
Wright, J. M., 2394
Wright, R. C., 2486
Wright, W. J., 3090v
Wright Rain Ltd., 3011
Wulff, B. W. J., 181z, 345
Wundsch, H. H., 3024 l
Wurgler, W., 2361
Wyckoff, C. G., 1742
Wye College, Department of Hop Research, 643
Wylie, W. D., 332
Wyman, D., 3816r

Yagi, T., 1806, 1822
Yagyu, P. K., 1545
Yamada, S., 804, 3739
Yamaguchi, M., 3454, 3455, 3517
Yamaki, T., 3090m
Yamasaki, K., 423
Yang, C-C., 952b
Yates, R. A., 910
Yates, R. E., 3605 l
Yeager, A. F., 2557p
Yeates, J. S., 3816s
Yeddanapalli, L. M., 951k
Yee, W., 3893k
Yeh, C-S., 917
Yen, D. E., 1449, 3605m
Yendol, W., 2787
Yerkes, W. D., Jr., 1490, 1730
Ylagan, M. M., 500
Ynalvez, L. A., 500
Yokomizo, T., 1199
Yokoyama, H., 2114
York, T. L., 3514
Yoshimura, F., 3130
Young, P. A., 1586 l, 3605n
Young, R. A., 1279
Young, R. E., 3890
Young, R. W., 3437
Young, T. W., 883, 2815
Young, V. H., Jr., 2685, 2686, 2763m
Younger, R. W., 3815q
Yuan, T., 1559
Yukawa, I., 1806

Zabala, S., 766, 926, 1834
Zabin, I., 3558, 3605o
Zacharius, R. M., 3764
Zaffanella, M. J. R., 3615
Zahanova, E. I., 1216
Zahn, F. P., 256
Zalewski, W., 1187u, 1190
Zaliwski, S., 1105
Zamecnik, P. C., 1622
Zamith, A. P. L., 3723

Zanardi, D., 533, 2395
Zangheri, S., 1345
Zankov, Z. D., 2205, 2218
Zanotti, L., 2828r
Zanzibar Department of Agriculture, 842
Zarger, T. G., 2241j
Zattler, F., 652
Zaumeyer, W. J., 462, 3605p
Zauralov, O. A., 2415
Zav'jalov, N. V., 3574
Žebrak, A. R., 28
Zeck, E. H., 1785, 1840
Zedler, R. J., 3342
de Zeeuw, A., 2069
deZeeuw, D., 3045
deZeeuw, D. J., 467, 2445
Zeevaart, J. A. D., 3090k
Zeiger, D. C., 3147
Zeijlemaker, F. C. J., 2725
Zelensky, V., 2859
Zeller, A., 4008
Zemljanuhin, A. A., 2384
Zentmyer, G. A., 1788, 1795, 2770, 3271, 3892i
Zetsche, K., 1038
Zeylstra, H. H., 1371z
Ziegler, H., 2088w, 2454
Zielinski, Q. B., 3190 l
Ziller, R., 3952
Zimmerman, L. H., 2661
Zimmerman, L. J., 1540
Zimmerman, P. W., 2043
Zink, F. W., 504, 1528, 1529, 3032, 3540, 3604t
Zinna, G., 839p
Zirojević, D., 2380 l
Žironkin, I. M., 2184
Živickaja, L. I., 543
Zollar, C. O., 1202
Zolotovich, G. D., 2628, 2633, 2743, 2744, 2745
Zorin, F. M., 754
Zoschke, U., 2491
Zub, L., 1678
Zubov, M. F., 3290
Zuccardi, R. B., 746
Zucchini, M., 2183j
Zuckerman, B. M., 2331, 3270
Zuluaga, A., 2241k
Zuluaga, P. A., 1207
Zwar, J. A., 1037
Zwicky, P., 1367, 2210, 3337r
Zwintzscher, M., 3816t

Abacá (*Musa textilis*)—*see* Manila hemp
Abbreviations for horticultural terms, 1005
Abelmoschus spp.—*see also* Okra—
pests, 573
pollen germination, 1497
seed treatment, 1498
Abscission—*see* Flower drop, Fruit drop, Growth-substances *and* Leaf
Abutilon indicum, 2637
Acacia—*see also* Wattle—
cyanophylla, 1697
harpophylla, 1999
spp.—
for cut flowers, 1782g
pests, 3859
as shade trees, 2864
Acanthopsyche junodi, 2004
Acanthoscelides obtectus, 1492, 2456
Acaricides—*see also* Insecticides *and* Sprays—
antibiotics as, 280
butylphenoxyisopropyl chloroethyl sulphite (Aramite, CES, etc.), 1837
chlorbenside (Chlorocide, Chlorparacide, Elimite, Mitox, etc.), 1319, 2338, 3297
chlorinated phenyl benzene sulphonates (CPBS, CPCBS, DCPBS, Ovotran, etc.), 786, 1826h, 3297, 3860
demeton (Systox), 2798, 3602, 3859
diazinon, 787, 2690
di(*p*-chlorophenyl)methylcarbinol (Dimite, DMC), 2701, 3693
diethyl diethylaminoethyl phosphorothiolate, 315, 3892z
dinex, 786
endrin, 1769, 3725
ethyl-*p*-nitrophenyl benzenethiophosphonate (EPN), 326
flavour effects on crops, 1360
fungicides as, 318, 3861
fungicides mixed with, 3782
insecticides mixed with, 2799
Metasystox, 2297, 3336
oils, 314, 1321, 1322, 2300, 2340
parathion, methyl parathion and related esters, 1322, 1577, 1836, 2300
phosdrin, 3602
residues, 1360, 3892q
reviews on, 311, 1371w
sulphur and sulphur compounds, 318, 784, 1577
systemic, 656, 779, 1315, 1363, 1711, 1740, 3693, 3859, 3892z
Tedion, 3297
trichloromethyl, dichlorobenzhydrol (FW-293, Kelthane), 317, 677, 3332, 3856, 3857, 3892q
Acaricides (*continued*)—
Trithion, 3602
various, 316, 573, 1317, 1318, 2302, 2690, 2984, 3500, 3782
Acer—
negundo, 263
palmatum, 2035
rubrum, 1762
spp.—
growth and physiology, 3042
pests, 3794
propagation, vegetative, 1762, 2754
seed germination, 3793
Aceria—
ficus, 1271
paradianthi, 2690
phloeocoptes, 1320
sheldoni, 2827 l, 3856
Acetaldehyde in fruit, 2177, 2187
Acetate metabolism in plants, 1019
Acetylenic compounds as natural products, 1701e
Achras sapota—*see* Sapodilla
Acids, organic—*see also individual acids, and crops under* composition—
determination, 1018, 1155, 1158, 1185, 1651, 1655p, 2022, 2023, 2192, 2615m, 2618, 2828o, 3089p, 3089z, 3090a
liberation by roots, 2437
metabolism, 599, 1560, 2030, 2040, 2167, 2443, 2518, 2519, 2615m, 2634, 3167, 3638
in plants, 11, 177, 181k, 577k, 638, 950d, 950g, 950v, 951k, 1156, 1157, 1475, 1540, 1959f, 2192, 2341p, 2556n, 2556x, 2567, 2596, 2634, 2871, 2994u, 3598, 3604q, 3712i, 3940
Aconitum spp., water relations, 1030
Acorus calamus, 2653
Actinidia spp., soil flooding, 3081
Actinomycetes antagonistic to fungi and bacteria, 1308
Acyrthosiphon pisum, 2453
Adansonia digitata, 3997d
Adelaide bot. Gdn, A.R., 4029t
Adoxophyes orana, 1343, 3318
Aegle marmelos, 2624
Aeneolamia varia var. *saccharina*, 3979
Aesculus dallimorei, 729
Africa—
East—*see* East *and separate countries*
French West and Equatorial—*see* French
North—*see separate countries*
South—*see* South
West—*see* West *and separate countries*
Agapanthus spp., cultivation, 2763a

Agave—
lecheguilla, 3673
sisalana—*see* Sisal
spp.—
as fibre plants, 3689
fruit formation induced by growth substances, 2677
as medicinal plants, 3673
zapupe, 3689
Ageratum houstonianum, 29, 30
Agonis abnormis, 626
Agricultura técnica en Mexico, a new periodical, 2007
Agricultural—
Engng, nat. Inst., 66r
Improvement Coun. England and Wales, 1979
research in Europe, 3024 l
research in Venezuela, 1004
statistics in Scotland, 3015
Agriculture—*see also* Horticulture—
in Ethiopia, 2830
in Indonesia, 3996z
tropical—*see* Tropical
Agriotes spp.—*see* Wireworms
Agrobacterium tumefaciens—*see* Crown gall
Agromyza phaseoli, 3014
Agropyron repens, 352, 357, 390j, 1380, 1413b, 2345, 3354, 3404
Agrostis alba, 3355, 3358
Agrostis spp., diseases, 3772
Agrotis spp. control, 1643
Air—
conditioning and purification—*see* Storage buildings
layering—*see* Marcotting
pollution, a book on, 4006
pollution and plant injury—*see also under* Fluorine—7, 1081, 1780, 1793, 1988, 2014, 2015, 2249, 2329, 2752, 2887, 3033, 3090n
Aircraft, agricultural uses of, 66b
Aircraft, application of chemicals, 951e, 1641, 1872, 2331, 2859, 3292
Alangium lamarckii, 2672f
Alberta—*see also under* Canada—Dep. Agric., A.R., 1980
Albinism, natural, 1794
Albizzia spp., as shade trees, 2864, 2965
Albrecht-Thaer-Archiv, a new periodical, 2006
Alcohol in fruits, 2177, 2187
Alcohol from Jerusalem artichoke, 1441
Aldehydes in tea, 2993h
Aleurothrixus floccosus, 2802
Algae—
control on flower pots, 3719
control in ponds and streams, 3347
culture, large-scale, 668
Algeria, crops, ornamentals, 2673
Algeria, trees and shrubs in, 3815j
Alkaloids—*see also* Nicotine *and certain other well-known alkaloids*
biosynthesis of, 669z, 1627, 3633
contents, distribution in graft combinations, 3628
Alkaloids (*continued*)—
contents, factors affecting, 1665, 1666
determination, 669y, 2618, 2672 l, 3712b
plant—*see* Medicinal plants, Cinchona *and* Tobacco *under* composition, *and species of Alangium, Atropa, Conium, Chondodendron, Datura, Dioscorea, Gentiana, Rauwolfia, Ruta and Strophanthus*
Alkmaar Exp. Stat. Veg. Growing in the Open, Holland, A.R., 3409
Allelopathy in higher plants, 3068
Allium spp.—*see also* Onion, *etc.*—as weeds and their control, 361
Almond—
anatomy, wood and leaf, 3240 l
climate, winter hardiness, 3236
diseases and disorders, 274, 1250, 1261, 1278, 3282
growing in North Africa, 1232
growing, a review, 1240p
nutrition, salt injury and tolerance, 2117
pests, mite, 1321, 1360
planting on old almond soils, 2182b
pollination, 1187s
production and trade, 3240o
pruning, 181b, 3150
×*Prunus persicoides* hybrid, 1122
residues as manure, 10
rootstocks, 1112, 2117
soil fumigation injury, 2306
soil waterlogging, 3081
varieties, 72, 996, 1998, 3236
Alnus glutinosa, 2667
Alnus incana, 2752
Aloe spp., diseases, 1748
Aloe spp., as medicinal plants, 1701m
Alpine plants, water relations, 1030
Alternaria—
brassicicola, 408
citri, 803
crassa, 620
dianthi, 683, 2332, 2684
longipes, 2559, 3664x
oleracea, 1357
passiflorae, 1862e
senecionis, 690
solani, 1357, 1570, 2275, 2328, 2530, 2543, 2556s, 2658, 3059, 3329, 3604k
spp., unspecified, 2531
tenuis, 1284
zinniae, 3744
Aluminium—
foil for frost protection, 3032
foil wraps for nursery stock, 2750
nutrition of plants, 3546
toxicity, 45, 2388
Amaranthus gangeticus, 2556y
Amaranthus spp., as weeds, and their control, 1380 2368, 3365
Amateur Gardening Annual, 990
Amateur Gardening Diary hort. Directory, 4018
Ambrosia spp., control, 1379, 1387
Amelanchier spp., as rootstocks, 3189u
Amino acids—*see under* Acids, organic

Ammi majus, 2624
Ammonia—*see also* Nitrogen—gaseous, a fungicide, 1847, 3197
Ammonia injuries to plants, 504, 1528, 3747
Amphorophora rubi, 3267
Amygdalus spp., wood and leaf anatomy, 3240 l
Amyloid content of seeds, 1053
Anabasine determination, 1655o
Anagallis spp., garden forms, 743d
Anarsia lineatella, 2341d
Anastrepha—
fraterculus, 806, 3307
mombinpraeoptans, 1903
spp., unspecified, 2796
Ancylis comptana fragariae, 334
Anemone—
diseases, 2328, 3752
forcing, 3816a
research in Great Britain, 2000, 2703
Anethum graveolens—*see* Dill
Angelica archangelica, 2624
Angola, crops, 2864
Anisandrus dispar, 346s
Annona—
cherimola—*see* Cherimoya
muricata, 1090
spp.—
growing in various countries, 2765
hybrids, 3996n
pests, 1786
rootstocks, 4021
squamosa (custard apple), 1090, 1952
Annual Reports—*see also* Reports *and* Yearbooks—
Adelaide bot. Gdn, 4029t
Alberta Dep. Agric., 1980
Alkmaar Exp. Stat. Veg. Growing in the Open, Holland, 3409
Amsterdam roy. Inst. Tropics, 3024g
Amsterdam trop. Prod. Dep., 3021
Arnhem Inst. appl. biol. Res. in Nature, 261
Australia(n)—*see also below*, South—
Canned Fruits Bd, 2008d
C.S.I.R.O., 985
Dried Fruits Control Bd, 2008e
Wine Bd, 2008f
Barbados Dep. Sci. Agric., 4013
Bermuda Dep. Agric., 2008g
British—
Columbia, Dep. Agric., 1981
Honduras, Dep. Agric., 3024a
West Indies centr. Sugar Cane breed. Stat., Barbados, 907
California Dep. Agric., 983
Canada—
Dep. Agric., Dir. exp. Fms Serv., 4029c
Dep. Agric., Dir. Sci. Serv., 4029d
Minist. Agric., 1982
nat. Res. Coun., 2008h
Cawthron Inst., N.Z., 1983
Ceylon—*see also below*, Rubber—
Coconut Res. Inst., 861, 3923
Dir. Agric., Administ., 984
Annual Reports—Ceylon (*continued*)—
Tea Res. Inst., 2961
Colonial Research Council, 4015
Comité Appl. Méth. isotop. Rech. agron., Gembloux, 4029i
Cornell agric. Exp. Stat., 4029e
Cyprus Dep. Agric., 1985, 1986, 2008i
Danish Seed Testing Stat., 3024i
D.S.I.R., London, Food Invest. Bd and Dir. Food Invest., 987
East African Tea Res. Inst., 932
East Malling Res. Stat., 3016
Edinburgh and East of Scotland Coll. Agric., 2008j
Fiji Dep. Agric., princ. agric. Stat., 1003d
Florida agric. Exp. Stats, 989
Geisenheim/Rheingau, Bundesanst. Qualitätsforsch. pflanzl. Erzeugn., 4014
Geisenheim/Rheingau, Lehr- u. Forsch-Anst. Wein-, Obst- u. Gartenb., 4016
Hawaiian Sugar Planters' Ass. Exp. Stat. Cttee, 1924
's-Hertogenbosch St. hort. adv. Serv. and Middelrode hort. Exp. Holding, Holland, 4019
Hillsborough agric. Res. Inst., N. Ireland, 2008a
hort. Res., Minist. Agric., The Hague, 986
La Hulpe Stat. provinc. Rech. sci. Vitic., 1204
Imp. Coll. trop. Agric., Trinidad, 4029h
Indian—
Coffee Bd, 1888
Coun. agric. Res., 4020
Tea Ass., sci. Dep., Tocklai, 2962
Indonesia C.P.V. Exp. Stats, 1989
Inst. Encouragement Rech. sci. Ind. Agric. (I.R.S.I.A.), Brussels and Gembloux, 4029i
Inst. nat. Étude agron. Congo belge (I.N.E.A.C.), 1990
Inst. Rech. Caoutch. Indochine (I.R.C.I.), 2917
Inst. Rech. Huiles Oléag. (I.R.H.O.), Paris, 3017
Iowa Div. Agric. St. Coll. and agric. Exp. Stat., 1993
Ireland, Republic of, Minist. Agric., 3024f
John Innes hort. Instn, 3018
Lausanne, etc., Stats féd. Essais agric., 1994
Lyamungu Coffee Res. exp. Stat., 2857
Madras agric. Dep., Administ., 4021
Malaya Dep. Agric., 1995
Mauritius Sugar Ind. Res. Inst., 3959
Minnesota agric. Exp. Stat., 1003f
Mississippi agric. Exp. Stat., 993
Missouri agric. Exp. Stat., 3020
Mlanje Tea Res. Stat., Nyasaland, 933, 2964
Mysore agric. Dep., 1003g
(and guide), N.A.A.S. exp. Hort. Demonstr. Stats, Great Britain, 4029 l
Nebraska agric. Exp. Stat., 2008 l
New South Wales Dep. Agric., 1998
New York St. agric. Exp. Stat., 2008m, 4029n

Annual Reports (*continued*)—
New Zealand Dep. Agric., Hort. Div., 994
New Zealand D.S.I.R., 995
Nigeria Dep. Agric. (Central), 1003h
Nigeria Dep. Agric., Western Region, 4029o
Northern Ireland, Minist. Agric., 1996
Northern Nut Growers' Ass., 3024d
Nottingham Univ. Sch. Agric., 4024
Nyasaland Dep. Agric., 996, 1003i, 4022
Pennsylvania agric. Exp. Stat., 2008n
Pflanzenschutzämter, Brunswick, 3024b
Queensland Bureau Sugar Exp. Stats, 1925
Queensland Dep. Agric. Stock, 1999
Rosewarne exp. Hort. Stat., 2000
Rothamsted exp. Stat., 4023
Rubber Res. Bd Ceylon, 900
Saanichton Domin. exp. Fm, 997
San Remo floric. Exp. Stat., 3713
Sarawak Dep. Agric., 4029q
Scotland Dep. Agric., 4029r
Scotland Dep. Agric., agric. Statistics, 3015
Seychelles Dep. Agric., 3024h
Shell Serv. for the Fmr, Venezuela, 998
Sierra Leone Dep. Agric., 2008o
Singapore bot. Gdns Dep., 2008p
Somaliland Dep. agric. vet. Sci., 4019s
South African Sugar Ass. Exp. Stat., 1926
South Australia Minist. Agric., 4029u
Surinam Dep. Agric., 2008q, 3024j
Tanganyika agric. Corp., 2008r
Tea—*see above*, Ceylon, East African, Indian *and* Mlanje
Tunisie Serv. bot. agron., 999
United States agric. Exp. Stats, 4029v
United States Secretary Agric., 2008s
Vegetable Res. Stat., Wellesbourne, nat., 4025
Wädenswil, eidg. Versuchsanst. Obst-, Wein- u. Gartenb., 2002
Wageningen Inst. hort. Engng, 1991
Washington agric. Exp. Stats, 1003j
Wattle Res. Inst., Pietermaritzburg, 2004
Wellesbourne—*see above*, Vegetable
West African Cocoa Res. Inst., Tafo, 2839
West African Inst. Oil Palm Res., 2891
Western Samoa Dep. Agric., 4026
Wilhelminadorp Exp. Stat. Fruit-growing in the Open, 1188
Wisconsin agric. Exp. Stat., 2008u
Wye College Dep. Hop Res., 643
Zanzibar Dep. Agric., 842
Anoplocnemis phasiana, 2309
Anoplolepis longipes, 1885
Ant(s), beneficial, 1885
Ant(s), harmful and their control, 320, 321, 858, 880, 1859, 1867, 1885, 1914, 1959r, 2993o, 3855, 3944, 3946
Antestia (*Antestiopsis*) spp. on coffee, 951d, 2881, 3945
Anther composition, 18
Anther development, 2136
Anthocyanin—*see* Pigments
Anthores leuconotus, 3945
Anthurium, spray damage to, 2704
Antibiotics—*see also* Phytoncides—
from actinomycetes, 3492
as bactericides, 1280-1282, 1371r, 1432, 2272-2274, 2332, 2473, 2553, 2571, 2572, 2663, 2822, 2874, 3269, 3270, 3779, 3816b
copper enhances action of, 2553
determination, analytical, 2618
from fungi, 465, 1355, 2394, 2540, 2663
as fungicides, 280, 462, 465, 605, 1355, 1371r, 1432, 1783d, 2289, 2291, 2298, 2332, 2333, 2394, 2483, 2540, 2666, 2714, 2794, 3020, 3288, 3328, 3329, 3440, 3443, 3469, 3497, 3720, 3770, 3771
growth substance mixtures, 3059
in or from higher plants, 657-660, 2168, 2655-2658, 2671x, 3328, 3697, 3712r
as insecticides and acaricides, 280
in mist spray propagation, 1783d
-oil mixtures, 3652
plant uptake and translocation of, 277, 1353, 1354, 1433
plants injured or otherwise affected by, 576w, 925, 1354, 1710, 2332, 2333, 3270, 3337c, 3610, 3643, 3791, 3973
residues on plants, 2529
reviews, 340, 1371m, 2342u, 3022, 3337c
systemic action, 3269, 3720
testing of, 3329
for virus control, 3492
Antidesma diandrum, 2660
Antirrhinum—*see* Snapdragon
Anychus orientalis, 3859
Aonidiella aurantii—*see also* Citrus pests, scale, red—3882
Aonidiella citrina, 791
Aonla—*see Phyllanthus* spp.
Apanteles solitarius, 1773
Aphelenchoides olesistus, 699
Aphelenchoides ritzema-bosi, 2693
Aphelinus mali, 1327
Aphids—*see also under scientific names and host plants*—
assessment of damage caused by, 2409
a book on, 2996
control—
biological, 471, 4023
of root infesting, 3542
by sprays and dusts, 328, 427, 472, 497, 1454, 1641, 2297, 2340, 2453, 2607, 2615o, 3153
by systemic insecticides, 339, 655, 779, 927, 1363, 1437, 1711, 2303, 2711, 2762k, 3301
glandular hairs in relation to, 1578
incidence, irrigation affects, 1429
as virus vectors, 497, 577f, 636, 927, 1270, 1831, 2269, 2552, 2711, 3267, 3338b
Aphis—
citricidus, 779
fabae, 339, 4023
gossypii, 780, 1831, 2552
helichrys, 2679
spiraecola, 1831

Aphytis spp., parasites of scale insects, 3323
Apocynaceous plants, reserpine in—*see also Rauwolfia*—1669
Apogonia spp., on cacao, 2840
Aporia crataegi, 1339
Aporocactus flagelliformis, 1782s
Apparatus and instruments—*see also* Irrigation equipment, Machines, Spray equipment *and* Tools, *and well-known types of apparatus under their common names*—
for controlled environment chambers, etc., 1033, 1034, 2070, 2071, 2078, 2256, 2257, 3085
for controlling soil atmosphere, 62
for determining, measuring or recording—
colours, 1197
enzyme activity, 1084i
evapotranspiration, 67f
growth (auxanometer), 64
leaf areas, 2082, 2087w
light, 2081, 3090r
moisture contents of air, 2080
photosynthesis, 2971
plant surface wetness, 3337n
plant height (plant board), 3089o
radiation, 66d
soil moisture, 768, 1073, 2995d, 3892b
sulphur content of the air, 3090n
temperatures of air, 670p, 3089i, 3089j
temperatures inside plants, 765, 2087 l
temperatures in stacks of bagged produce, 2087p
tensile strength of roots, 2088k
tree girths (dendrometer, etc.), 113
for dispensing pollen—*see under* Pollination
for freeze-drying plant tissue, 1084p
for frost damage research, 2256, 2257
for fumigating soil—*see* Fumigation, soil
for growing trees with their roots in a nutrient spray, 2153
for heat treatment of plant material, 2948, 2950
humidifiers—*see* Humidifiers
for injecting soil—*see under* Fumigation, soil, methods, *and* Nutrition by injection into subsoil
for micro-meteorology, 2087v
for permitting photosynthesis of radioactive substances, 63
for rodenticide application, 1371 l
for soilless culture—*see* Soilless
Apple—*see also* Cider *and Malus*—
biennial bearing—*see below*, fruiting
blossom—*see below*, flower
books on, 3010
breeding and selection—
for disease resistance, 78
general, 79, 2098, 2100, 3189d
thermal neutron radiation used in, 2099
chimaeras—*see below*, mutations
climate—
fruit scald in relation to, 1179
micro-, soil management affecrs, 2161
rain retention by tree top, 1151
Apple—climate (*continued*)—
spring frost injury, 255, 3251, 3252
temperature responses, 170, 2128, 2130
wind responses, 156, 261, 2264
winter—
chilling requirements, 109
hardiness—*see also below*, rootstocks, hardy *and* varieties, hardy—101, 1094, 1097, 2259, 3190g
injury, 2255, 2259, 2341i
composition—*see also below*, nutrition—
bark, 181x
fruit, 68, 159, 177, 181k, 987, 995, 1015, 1157, 1159, 1168, 2098, 2150, 2163, 2166-2168, 3166-3168, 3189x
leaf, 137, 140, 144, 181x, 1142, 2020, 2126, 2127, 2152, 2153, 3020, 3139, 3140, 3143, 3164, 3245
root, 2125
seed, 181a
shoots and branches, 2125, 2126
defoliation, artificial, 1113
diseases—*see also below*, storage—
bacterial, fireblight (*Erwinia amylovora*), 1281, 2271
cause uncertain, 254, 1251, 2250-2252
fungus—
bitter rot (*Glomerella cingulata*), 284, 285, 1294, 1371g
black rot (*Physalospora obtusa*), 3147
Botryosphaeria ribis, 281, 2284
bull's-eye rot (*Neofabraea* spp.), 283
canker or eye rot (*Nectria galligena*), 1291, 3337d
flyspeck (*Leptothyrium pomi*), 346c, 2341y
lenticel rot (*Gloeosporium* spp.), 285, 1292, 1293, 2285, 2341x, 2342n, 3277-3279
mildew (*Podosphaera leucotricha*), 78, 278-280, 1285, 1310, 3275, 3276, 3337q
phytophthora, collar or crown rot (*Phytophthora cactorum*), 347c, 2279, 2342a
Pythium spp., 2281
rust (*Gymnosporangium juniperi-virginianae*), 2278
scab (*Venturia inaequalis*)—
control—
by antibiotics, 3328
fungicide tests, 2342d
general, 282, 1180, 1285, 1287-1290, 1371i, 1981, 2278, 2297, 2341h, 2342m, 2342r, 3273, 3274, 3337m
by ground treatment, 3272, 3273
by low-volume spraying, 3275
resistance, 78, 2276
warnings and spore discharge, 1285, 1286, 1290, 3272
sooty blotch (*Gloeodes pomigena*), 281, 346c, 1371q, 2341y
non-parasitic, leaf spotting, 249
virus—
false sting, 3337o

Apple—diseases—virus (*continued*)—
flat limb, 1371n, 3265, 3337o
mosaic, 1262, 3337o
stem pitting and necrosis, 1263, 2265
witches' broom or proliferation disease, 279
economics—
capital value, 1110
growing, 2090
marketing, 1161, 2090, 2172, 3189f
roadside trees, 2183c
flower(ing)—
biology, 115
bud differentiation, 68, 1113, 1114
nectar production, 1128
removal, growth and yield affected by, 3151
temperature responses, 107
thinning by sprays—*see also below*, fruit—120, 3154, 3155, 3157, 3189s, 3189w
time of, 2182h
frame builders—*see below under* interstocks
frost effects—*see above*, climate
fruit(ing)—*see also above*, composition, *and below*, harvesting, packing *and* storage—
biennial, 995, 2149, 2151, 3151, 3156, 3157
bud—*see above*, flower
cell development, 68, 174
coatings, natural, 1157
colour, factors affecting, 1172, 3157, 3170
colour, sprays to improve, 125, 3159
cracking, 2250-2252, 2318
dehydration, 1186
drop, factors affecting, 3147
drop, spraying or dusting to retard, 122-124, 1130, 1131, 1999, 3158, 3159
ethylene production by, 1176
flavour, spray effects, 1371c
growth, 2130
growth substance in, 1159
maturity—
altitude affects, 110
chemical changes following, 159
days from blossoming to, 115
fungus infection in relation to, 2284
rootstocks affect, 79
tests, 181r, 1170
phase, measures to induce, 3127
quality, factors affecting, 79, 158, 343, 2168, 3020, 3252
respiration, 171, 2173
russeting, sprays cause—*see also above*, diseases, cause uncertain, *and below*, spray injury—3274
-seed relationships, 68, 2131
size, factors affecting, 68, 79, 2149, 3157, 3273
thinning—*see also above*, flower—120, 121, 1129, 1187c, 2182k, 3020, 3155, 3156, 3189s, 3189w
yeasts on, 1160
yields, 150, 3151
growing—*see also below*, research *and* varieties—in—
Canada, 997, 3094, 3189d
Apple—growing (*continued*)—
European countries, 1187g, 2091, 2182o, 2183j
the U.S.A., 2182r
growth—
growth substances affect, 129
herbicides affect, 1379
knotting of stem checks, 3127
mycorrhiza affects, 2125
phases, juvenile and mature, 105, 2123
phases, nutrition affects, 2126
rejuvenation, 1140
root, factors affecting, 3126
root, in nutrient cultures, 98, 2153
root: shoot relationships, 3115
shoot: stem angle, 129
studies, 151, 1115
temperature responses, 107
harvest forecasting, 115
harvesting, methods, 158, 3189h, 3189o
harvesting, time of, 158, 1999
interstocks, 95, 96, 99, 1109 2114, 2265, 3117
irrigation, 3147
leaf—*see also above*, defoliation—
anatomy, 2123, 2124
area measurement, 3125
buffer capacity and pH in relation to sulphur-shyness, 2127
frost injury, 255
growth substances in, 1159
osmotic pressure, 2114
preparation for analysis, 8, 9
scorch, studies on, 2325
marketing—*see also above*, economics, *and below*, packing—181s, 2182o, 3189 l
mulching—*see below*, soil management
mutations, 2003, 2099, 2182g, 3190 l
mycorrhiza, 2125
nutrition—*see also above*, composition—
absorption of nutrients through bark, 134, 135, 3133, 3138
boron, 142, 347d, 1244
calcium, 146, 3133
compost mixtures, 1140
foliar—*see also below*, nutrition, nitrogen—68, 144, 548, 3133, 3137
fruit composition in relation to, 2163
iron, 2153, 3133, 3244
magnesium, 144, 548, 1247, 2341g, 3164
manganese, 2149, 2153, 3245
manuring, 68, 141, 995, 1141, 2148, 2182s, 3135, 3147
molybdenum, 145, 1983
nitrogen—
general, 68, 146, 1142, 2126, 2147, 2149, 2151, 2164, 3164
pest populations affected by, 3298
sprays, urea, 2154, 3136
nutrient spray applied to roots, 2153
phosphorus, 133, 2126, 2147, 2149, 2152, 2163, 2164, 3133, 3137-3140, 3148, 4004
potassium, 249, 2126, 2147, 2149, 2150, 2153, 2163, 3116, 3140, 3148, 3164
rootstocks affect, 3116, 3133

Apple—nutrition (*continued*)—
storage quality affected by, 68
sulphur, 2149, 3133
zinc, 68, 134, 2248, 2341z
packing—
consumer reactions to, 3173
containers, 1163, 1164, 3173, 3189z
economics, 1161, 2172, 3189z
methods, 2182o, 3174
pests—
aphid, green (*Aphis pomi*), 328, 1326, 2340
aphids, various—*see also below*, woolly—1326, 2303
bagworm (*Oiketicus kirbyi*), 3308
blossom weevil (*Anthonomus pomorum*), 1329, 2304
codling moth (*Enarmonia pomonella*)—*see also* Codling moth—324, 325, 328, 329, 1342, 2312, 2313, 2315, 2339, 3147, 3308
control, biological, 1361
control, general, 1365
curculios (*Conotrachelus nenuphar*), 2310
ermine moth (*Yponomeuta padella malinello*), 333
fall webworm (*Hyphantria cunea*), 3314
leaf-curling midge (*Dasyneura mali*), 1336
leafhoppers, 1335
leaf miners (*Leucoptera* spp., etc.), 3316, 3317
maggot (*Rhagoletis pomonella*), 3147
mice, voles and rats, 1349
mites, red spider (*Metatetranychus* and other genera), 280, 312-317, 1315, 1318, 1360, 2297, 2300, 2318, 2339, 2340, 3296-3298, 3308, 3332
nematodes, 1311, 2322, 2685
Otiorrhynchus cribricollis, 1333
Psallus ambiguus, 1334
rabbits and hares, 1350
red-banded leaf roller (*Argyrotaenia velutinana*), 2318
sawflies (*Hoplocampa* spp.), 2297
scale, San José (*Aspidiotus* (*Quadraspidiotus*) *perniciosus*), 3320
Thrips madroni, 338
tortrix moths (various species), 1343, 3318, 3319
winter moth (*Operophtera brumata*), 333
woolly aphid (*Eriosoma lanigerum*), 1327, 1352, 2297
physiology—*see also above*, fruit respiration, *and below*, storage—
abscission processes, 1032
bark regeneration, 96
enzyme activity, 2128
light, artificial, response to, 89
osmotic pressure of leaf, 2114
photosynthesis, 3296
pigment synthesis, 3169
translocation, 95
water relations—*see also below*, soil management, irrigation *and* mulching—68, 112, 148, 181h, 1144, 1179, 2124, 3140, 3148, 3296

Apple (*continued*)—
planting—
dates, 3126
on old apple soils, 1252, 2182b
spacing, 156, 1187n
pollination—
artificial, 2182n
compatibility, 115, 1122, 2182q
general, 1187h, 1187 l
pollen, maternal, 1123
pollen viability and germination, 115, 1084j, 1122, 2129
products and by-products, 159, 3189x
production and trade, 2183j, 3189d
propagation—*see also below*, rootstocks *and* seed—
budwood storage, 1106
cuttings, 2077, 2104, 2105, 3112
double working—*see above*, interstocks
frameworking, 2002, 2341i
layering, 1103
method, virus transmission affected by, 3265
on own roots, 93
pruning and training—
dwarf pyramids, 1187g
general, 1187j, 2143, 3150, 3190d
methods compared, 1136, 2144, 2145, 3151
Ruzyně method, 1137
for wide crotch angles, 3190i
wind damage in relation to, 2264
research in various countries, 1086, 3093, 4016, 4021
ringing, biennial bearing in relation to, 3157
ringing with inverted bark rings, 95, 96
as roadside trees, 2183c
root—*see also above*, growth *and* mycorrhiza—anatomy, 3115
root, soil temperature responses, 2128
rootstocks—*see also above*, interstocks *and* propagation *and below*, seed—
Antonovka, 3
in Canada, 3117
Double Vigour, 1983
drought resistant, 1112
dwarf, mechanism of growth control by, 95
fruit cracking affected by, 2251
in Great Britain, 3189v
hardy—*see also above*, climate—99-101, 256, 1187r, 2111, 3117
hot-water treatment, 1311
identification in nursery, 2182p
leaf growth, 3004
Malling, 68, 98, 181q, 1107, 1108, 1187r, 2105, 2111, 2114, 2251, 2255, 2264, 3189m
Malling-Merton (MM), 181q, 2110
Malus baccata, 2111
Merton, 68, 1108
Northern Spy, 68, 1252, 1983
nutrition, 3116
Pillnitz, 2112
quince, 1109

Apple—rootstocks (*continued*)—
root: shoot relationships, 3115
rooting ability of scion cuttings affected by, 2105
-scion relationships, 249, 2114, 2255, 3114, 3116
seedling, raising of, 1105
seedling, varietal studies, 101
soilless culture, 98
in Sweden, 3119
in the U.S.S.R., 100, 1112, 2113
seed—
composition, 181a
dormancy and after-ripening, 88, 89
embryo culture, 88
endosperm, 115
-fruit relationships, 68, 2131
germination, 2103
number, growth substance treatment affects, 68
testing, for cold resistance, 1094, 2103, 3190g
testing, tetrazolium method, 2103
treatment, stratification, 88, 89, 1104, 2103
shoot anatomy, 2124
soil(s)—
compaction, 152
management—
cover crops and grass, 145, 148, 2160, 2161, 2163-2165, 3143, 3144
irrigation, 3147
micro-climate affected by, 2161
mulching, 146, 148, 1147, 2061, 2160, 2161
weed control, 349, 357, 997, 1379-1381, 2371, 3352, 3407e, 3407n
moisture responses—*see above*, physiology, water relations, *and* soil management, irrigation
requirements—
oxygen, 98, 1144
pH, 98
varietal differences in, 151
sickness, 1252
temperature responses, 2128
-yield relationships, 150
soilless culture, 98, 2153
spray(s)—*see also above under* diseases, flower, fruit *and* pests—
fruit flavour affected by, 1371c
injury, 1369, 2127, 2325, 2327, 3331
programmes and calendars, 244, 3326
residues on fruit, 344, 1370, 1998, 2341a, 3335
storage disorders affected by, 1180
stem-builders—*see above*, interstocks
storage—
carbon dioxide absorption, 1175
cold, 172, 1169, 1171, 1174, 1176
dips and coatings, 347j, 1181, 1183, 3181
diseases, rots, 283, 284, 1171, 1174, 2182y, 2282, 2283, 2285, 2341e
disorders, physiological, 68, 120, 172-174, 181t, 987, 1170, 1178-1181, 1982, 2144, 2182y, 2183f, 3179-3183, 3246
Apple—storage (*continued*)—
gas, 1167, 1174, 1175, 2171, 2183f, 3177, 3178
general, 1187k, 3189y
humidity control in, 1167
metabolic changes during, 159, 3166
plastic bags or liners for, 161, 162, 995, 1163, 1181, 1182, 3174, 3181-3183, 3186
plastic-covered stacks of boxes, 3184, 3185
pre-cooling treatment, 168
quality, factors affecting, 68, 120, 124, 126, 158, 168, 175, 1168, 1170, 1172, 1180, 2144, 3156, 3183, 3252
ripening fruit in, 3184
transport, 3174
varietal behaviour, 162, 172, 1169, 1170, 1172
vitamin loss during, 3168
volatile substances produced during—*see also above*, fruit, ethylene—987, 1176, 3179
weight loss in, 3182
wraps, 1181, 2282, 3180-3182
stump destruction, 3340
thinning—*see above*, flower and fruit
training—*see above*, pruning
varieties—*see also above under* growing *and* storage—
in Argentina, 3189g
Barry, 3102
in Canada, 1982, 3189r
cider, 2096
collections, 2095
colour plates of, 3008
Cox's Orange Pippin, 158, 249, 2150, 3010
Delcon, 1993
Delicious, 3168, 3190i
disease resistance, 347c, 1096
Dülmener Rosenapfel, 1096
Fenton, 181c
in Finland, 1187h
Flower of Kent, 86
in Germany, 85
Golden Delicious, 2124
in Great Britain, 1092, 2095
hardy, 256, 1096, 1097, 2255
Harvest, 2097
identification of, 2182p, 3008
Ingrid Marie, 2250, 2251
in Italy, 3189c
in Japan, 3190c
Jonadel, 1993
Jonared, 2124
Jonathan, 2182q
McIntosh, 146, 159, 2182g
in North Africa, 72
for processing, 2095
Red Delicious, 1169, 3190 l
Reinette du Canada, 1172
Seedling 27-32-52, 3
in Spain, 4002
sports, 2003, 2182g, 3190 l
Stayman Winesap, 1170
in Sweden, 181u, 3119

Apple—varieties (*continued*)—
training methods for, 1187j
Tydeman's Early Worcester, 2097
Tydeman's Late Orange, 2097
in the U.S.A., 1095, 2092, 3189n
weeds—*see above*, soil management
wood anatomy, 2265, 3115
yields, 150, 3151
Apricot—
breeding, 84
climate—
air pollution, 1371v
spring frost damage and protection, 258, 995, 1259
winter chilling requirements, 3128, 3129
winter hardiness and injury, 256, 3122
composition—
fruit, 2139
leaf, 2117
seed, 2169
diseases—
fungus—
brown rot (*Sclerotinia* spp.), 1296-1298, 2341c
collar rot (*Phytophthora syringae*), 1301
gummosis (various organisms), 3338h
shot-hole or coryneum blight (*Clasterosporium carpophilum*), 3282
non-parasitic, 1086, 1998
virus, 1278, 3337e
flower bud initiation and development, 2132, 3128, 3129
flower thinning, 3190j
fruit—
drop, growth substances retard, 128
girdling affects, 3161
growth substances affect, 128, 1134, 1999, 2139, 2140, 2182f, 3160
maturity, biochemistry of, 2177
maturity, irrigation affects, 1153
parthenocarpic development, 995
growing in Egypt, 1090
growing in European countries, 2182o, 3097
interstocks, 2118
× myrobalan hybrid, 1122
nutrition, potassium, 1297
nutrition, salt injury and tolerance, 2117
origin, 1102
packing, 2182o
pests—
fruit fly, Mediterranean (*Ceratitis capitata*), 1337
insects, various, 1335, 2306
squirrels, 2169
physiology, translocation of antibiotics, 1353
physiology, water relations, 149
pollen storage, 84
pollination, 119, 1127
products and by-products, 1153, 3097
pruning and training, 181b, 1998
ringing, 3161
rootstocks, 1982, 2111, 2117-2119, 2182p, 3097, 3122, 3124
Apricot (*continued*)—
seed—
composition, 2169
germination, 84, 92, 3108, 3162
growth substance in, 3108
growth substance treatment affects, 92, 2182f
uses of, 3097
variety identification by, 2169
soil management, irrigation, 1153
storage, pre-cooling, 169, 170
varieties—
hardy, 256
identification of, 2169, 2182p
in North Africa, 72
in the U.S.A., 2092
Arabidopsis spp., growth substance responses, 3055
Araecerus fasciculatus, 2993j
Arboretum at Kórnik, 734, 742d, 742g
Arbutus spp., growth rhythms, 1763
Arctic, crops, vegetables, 400, 1419
Arctium lappa, 575
Areca palm—
diseases, 2995r, 3996u
fruit morphology, 2986
growing in India, 951n, 1959p, 1959t
intercropping, 669a, 1701a
nut processing, 1960r
nutrition, 1955, 1959w
pollination, 1954, 3992
research in India, 2985, 4021
seed sowing methods, 1953
selection, 984
Argentina—
crops, fruit—*see also* Vine growing *and* research—1862b, 1863j, 2203, 2241k, 3189g, 3190b, 3213
crops, vegetables, 3549
Dir. gen. Invest. agríc., bien. Rep., 4029b
Argyrotaenia citrana, 3892j
Argyrotaenia velutinana, 2318
Aristolochia indica, 1701c
Armillaria mellea, 1204, 3271
Arnhem Inst. appl. biol. Res. in Nature, A.R., 261
Arnica montana, 1030
Aromatic plants—*see also* Essential oils—1662
Arrowroot (*Maranta arundinacea*), 3709
Arsenic sprays—*see under* Citrus fruit maturity, sprays affect, *and under* Herbicides
Arsenic toxicity of quartzite soils, 849
Artemisia vulgaris, 1413a
Artichoke—
globe—
economics, 3428
packing, 3604f
pests, 3429
seed treatment, 2399
Jerusalem—
composition, 1441
growth substance responses, 67j
nutrition, 3078
storage, 3430

Artichoke—Jerusalem (*continued*)—
tissue culture, 2041, 2049
varieties, 4023
Artocarpus altilis or *A. incisa*—*see* Breadfruit
Artocarpus heterophyllus(*a*) or *A. integrifolia*—*see* Jackfruit
Arum—*see also Zantedeschia*—*maculatum*, 1782b
Asclepias spp., fibre plants, 669k, 1672
Asclepias spp., rubber plants, 669r, 669s, 669u
Ascochyta—
boltshauseri, 3496
hortensis, 408
pisi, 408, 2556o, 3497
Ascorbic acid—*see* Vitamin C *and individual plants under* composition
Ash, composition of plant, 10
Asimina triloba, 742g, 3892u
Asparagus—
climate, drought injury, 416
climate, temperature responses, 1443
diseases, fungus, 413
growing among fruit trees, 3146
growing in various countries, 414
harvesting, 415
herbicide responses, 1400, 1444
pests, 413, 577n, 2400, 3431
plumosus, 1782r, 2363
soil management, weed control, 349, 388, 389, 1398-1400, 1444, 1981, 2371, 3376-3378
spray residues, 417
varieties, 1442
Aspergillus—
carbonarius, 3461
flavus, 2540
niger, 1284, 2923
spp., unspecified, 2290
Aspidiotus destructor, 1352, 1886
Aster—
diseases, 1706, 2275
pests, 3723
varieties, 678
Asterolecanium coffeae, 3945
Astragalus spp., gum tragacanth from, 3708
Athalia colibri, 3534
Atmospheric pollution—*see* Air
Atomic—*see also* Radioactive—
energy in horticulture, 2615u, 3037
fission products, uptake by plants, 398, 3417
radiation injury to plants, 398, 3038
radiation of seeds, 596, 2762e
Atopomyrmex spp., harmful ants, 880
Atropa belladonna, 669z, 670k, 1665, 1666, 3633
Atropa spp., as medicinal plants, 670j
Auchincruive—*see* West of Scotland agric. Coll.
Aulacaspis pentagona—*see Pseudaulacaspis*
Auric chloride, pollen germination stimulated by, 3992
Australia(n)—*see also individual States*—
Canned Fruits Bd, A.R., 2008d
crops—
deciduous fruits, 2243, 3100
small fruits, 3100
tropical and subtropical fruit and plantation, 1873, 2960, 2997
various, 1681, 3604h
C.S.I.R.O., A.R., 985
Dried Fruits Control Bd, A.R., 2008e
horticultural research, 1086, 1087
poisonous plants, 963
Wine Bd, A.R., 2008f
Austria, crops, various, 1240h, 1586a
Autoradiographic techniques—*see* Radioactive isotopes
Avocado—
breeding and selection, 838g
climate—
air pollution, 1793
frost damage and protection, 1863c
winter hardiness, 2767, 3817, 3818
composition, fruit, 845, 1796, 1797, 1863k, 3821
composition, leaf, 2768
diseases—
cause uncertain, albinism, 1794
fungus, black spot (*Colletotrichum gloeosporioides*), 3822
fungus, root rot (*Phytophthora cinnamomi*), 1788, 1795, 2770, 3892i
general, 2827q
experiments, field, 3832
flower behaviour, 1792
fruit—
characters, variations in, 3821
ethylene uptake by, 1177
growth, diurnal variations in, 3820
maturity tests, 1796, 1999
tissue culture, 1798
growing in various countries, 2765, 2827e, 2828l
nutrition—
manuring and major elements, 2767, 2768
minor elements, 1791, 2769, 3893c
sodium and/or chloride injury, 2768, 3817, 3819
pests—
Macrodactylus pumilio, 1786
rodents, 1863c
tortrix, 3892j
physiology, water relations, 3820
planting methods, 1863c
pollination, 1792
products, oil, 1863k
propagation by budding and grafting, 1790, 1862s
propagation by cuttings, 1789
research in the U.S.A., 1862g, 1862q
rootstocks, seedling, 1862s
soil—
changes occurring under, 2766
management, irrigation, 3819
management, weed control, 1383
storage, 3822
varieties, 1787, 1788, 1863b, 3817, 3818, 3821, 3892y, 3893a

Azalea—*see also* Rhododendron—
diseases, 1706, 1764, 1765
fungicide vapour injury, 1767
genetics, 2762v
growing in various countries, 2002
leaf drop, 1766, 1767
light responses, 1766, 3811
nutrition, 3811-3813
pests, 728, 3725
propagation by cuttings, 1764, 1765
propagation by grafting, 1764
soil—
composts for, 3018
management, irrigation, 3812
management, weed control, 3356
pH responses, 1777
temperature responses, 1764, 1765
Azotobacter—
inhibition by tulip sap, 3712r
inoculation with, 2386, 2511
in rhizosphere, 2511, 2580

Baccharis spp., toxicological studies on, 3674
Bacillus—
cereus, 2313, 2601, 3314
radicicola—*see under Rhizobium*
thuringiensis, 430, 2610, 3314, 3449
Bacteria(l)—
for bacterial disease control, 2271
decomposition of herbicides, 2350
diseases, a book on, 976
diseases, viruses increase susceptibility to, 2696
fertilizers, 2386, 2404, 3574
for pest control, 3314, 3449
Bactericides, fungicides as, 2395, 2553
Bacterium nigromaculans, 575
Bacterium tumefaciens—*see* Crown gall
Bailey, L. H., biographies, 671, 960
Balaninus nucum, 1331
Bamboo—*see also Bambusa and Phyllostachys*—
growing as ornamentals, 3816o
growing in various countries, 2668, 2671v
hedges, nomenclature, 742v
paper from, 1673
pests, 667
preservation, 847, 2965
utilization, 2668, 2671v
Bambusa spp., bamboos, 742v, 1673
Banana—*see also Musa*—
collecting expedition, 951v, 1961g
composition, fruit, 845, 950d, 1874,
composition, plant, 3901
diseases—
fungus—
fruit and bunch rots (several organisms), 852
leaf spot (*Cercospora musae* (*Mycosphaerella musicola*)), 1872, 2993e, 2993n
panama disease (*Fusarium oxysporum* var. *cubense*), 1961i, 3900
general, 844
non-parasitic, 849

Banana (*continued*)—
economics, 1873
fruit—*see also above*, composition, *and below*, marketing, packing, products, storage *and* transport—
abnormalities, 849
bunches, covers for, 850, 1871
development, 850
maturation and its estimation, 851, 987, 1874, 1875
growing in various countries, 1865, 1873, 2835, 3997b, 3997l
marketing, 1873
nutrition—
arsenic toxicity, 849
foliar, 843, 3899
manuring and major elements, 1959w
packing, 951q, 1959b, 1959j, 1960t
pests—
borer (*Cosmopolites sordidus*), 854, 2993z
fruit flies, 3897
general, 844
mealybugs (*Pseudococcus* spp.), 853
nematodes, 1862m
physiology, respiration, 1876
products, dried fruit, 981, 3021
products, pseudostem starch, 3901
propagation by butts, 2836
pruning pseudostem after harvest, 2838
research in Australia, 1998
soil management—
earthing up, 2837
irrigation, 1869
weed control, 998
spraying, concentrate, 1961a
storage—*see also below*, transport—
cool, 852, 855
dips, 1183
disorders, 1959b, 2282
life, 1870
ripening, artificial, 855, 1875
wraps, 2282
taxonomy, 848
transport, 951q, 1959b, 3021
varieties and species, 951u, 951v, 2835, 3898
Baobab (*Adansonia digitata*), 3997d
Barbados—
British West Indies centr. Sugar Cane Breed. Stat., A.R., 907
Dep. Sci. Agric., A.R., 4013
sugar cane growing and breeding, 2993y, 3997p
Bark development, 2182m
Bark, waste, horticultural uses of, 2061, 2062
Basil—*see under* Camphor basil
Bauhinia spp., in the U.S.A., 2762t, 2762u
Beans—*see* Beans (*Phaseolus*), Beans (*Vicia*), Cover crops, *and individual species*
Beans (*Phaseolus*)—
breeding and selection, 2448
climate—*see also below*, physiology—
air pollution, 3034, 3035
flowering and pod set affected by, 453
wind protection, 3409, 3415

Beans (*Phaseolus*) (*continued*)—
composition—
leaf, 2557t, 3035, 3491
plant, 422, 456, 460, 1479, 2040, 3481, 3604z
pod and seed, 1015, 1058, 1475, 1479, 1585n, 1585q, 2438, 3481
diseases—
bacterial—
common blight (*Xanthomonas phaseoli*), 1486
halo blight (*Pseudomonas phaseolicola*), 3059
wilt (*Corynebacterium flaccumfaciens*), 3494
cultivation injury in relation to, 3495
fungus—
angular leaf spot (*Isariopsis griseola*), 464, 2448
anthracnose (*Colletotrichum*, *Elsinoë* or *Glomerella* spp.), 408, 462, 1432, 1490, 2408
damping-off and root rots (various organisms), 408, 468, 2556 l, 3496
downy mildew (*Phytophthora* spp.), 462, 1432, 2450
powdery mildew (*Erysiphe polygoni*), 1432, 1473, 2557o
rust (*Uromyces* spp.), 462, 464, 465, 1432, 2452
Sclerotinia spp., 1283, 2451
general, 2557q, 3605p
virus, 461, 2444, 3492, 3493
economics, 1586g
flower(ing)—
differentiation, 1478, 1479
and fruit drop, 1478, 1482, 2441
growth substances advance, 3056
growing in prehistoric times, 448
growing in various countries, 3474
growth—
axillary shoots, 2499
chemicals affect, 3379
dwarfing, 2025
gamma irradiation affects, 398, 2557r
seed storage affects, 1495
-substance responses, 22, 23, 385, 1047, 1480, 2034, 2035, 2038, 2040, 2046, 3044, 3052, 3057, 3059, 3090e, 3483
vitamins affect, 1479, 3416
harvesting, mechanical, 1585b
herbicide responses, 1402, 2351, 2352, 2373
nutrition—
aluminium toxicity, 2388
arsenic toxicity, 849
bicarbonate, 3466
boron, 3076
calcium, 455
carbon dioxide, 26
chlorides, 3419
cobalt, 3064
foliar, 2056, 2057, 3064, 3076, 3489
iron, 459, 1484
manuring, 993, 1061
Beans (*Phaseolus*)—nutrition (*continued*)—
nitrogen, 456, 457, 1084b, 1423, 1482, 2776, 3072, 3488
phosphorus, 457, 1425, 1483, 2056, 2058, 3489
potassium, 455, 1372, 2056
rubidium, 1085f, 2056
sodium, 460
strontium, 3417
zinc, 2440
pests—
beetles and weevils (various species), 1492, 2456
Epinotia sp., 1491
fly (*Agromyza phaseoli*), 3014
Laspeyresia sp., 1491
leafhoppers (*Empoasca fabae*), 470
mites, 3500
nematodes, 1473
seed flies or maggots, 3501
physiology—
absorption and translocation, 26, 353, 458, 1019, 1037, 1085f, 1433, 2039, 2455
autoradiography, 2087z
carbohydrate leaching from leaves, 3090p
carbon dioxide fixation in the dark, 3072
cell membrane permeability, 3044
enzyme activity, 66y, 2025
of leaf abscission, 2046
metabolism, 1373, 2088i, 3035
photoperiodic and other light responses, 21, 399, 1019, 1027, 1402, 1478, 2029, 2046, 2058, 2352, 2435, 3036, 3041, 3057, 3090p, 3477
photosynthesis, 1027, 1373, 1480, 3416, 3466
respiration, 1480
temperature responses, 453, 1482, 2056
tissue culture, 38
water relations, 1373, 2032, 2435, 3379
pod quality and maturity, 449
pod set, 3483
pollen germination, 1482
processing, 1416, 1586g
root growth, 3076
root nodule formation, 38, 2557g, 3090d, 3484, 3486
seed—*see also above*, composition *and* growth substances—
coat, growth inhibitors in, 3069
germination, 2456
storage, 1495
treatment, 408, 467, 468, 1058, 1487, 2034, 2392, 2445, 3414, 3486, 3501
soil—
management—
cultivation, 3495
irrigation, 454, 1482, 3491
mulching, 454, 2512
soil conditioners, 3487
weed control, 351, 373, 374, 385, 1398, 1401, 2371, 2373, 3380, 3381, 3388, 3495
pH requirements, 45

Beans (*Phaseolus*) (*continued*)—
spray injury, 576w, 1710
staking and stringing, 3604g
varieties, 576f, 576g, 576j, 1416, 1472, 1586c, 2000, 2430, 2431, 2556 l, 2556u
Beans (*Vicia*)—*see also Vicia*—
composition, 66y, 1475, 1493, 1585q, 2389, 2658, 3604q
as cover crop, 2165
diseases, fungus and bacterial, 463, 466, 2449, 2556i, 3498, 3604k
growth—
factors affecting, 2434
rate measurement, 64
-substance responses, 466
nutrition, minor elements, 1427, 1428, 1484
pests, aphids, 339, 471, 999, 1363
physiology—
enzyme activity, 66y
ion absorption, 2033
irradiation effects, 3038
light responses, 2031, 2434, 3478
temperature responses, 1477
therapeutants' translocation, 15
water relations, 452, 2033
planting density, 3478
pod development, factors affecting, 3478
root, electric oscillations generated by, 3090h
as a rootstock for nasturtium, 2028
seed sowing time, 2000
seed treatments, 450, 452, 1055
soil management, weed control, 3387, 3391
soil pH requirements, 45
varieties, 2556e
as windbreaks, 3415
Bees—
caged plants pollinated by, 65, 491
fungicides, effects of, 1356
herbicides, effects of, 1413e
insecticides, effects of, 1362, 1455
pollination by, 118, 491, 528, 1125, 2186
Beet(root)—
composition, plant, 460
composition, root, 1015, 3530
diseases, bacterial, 3523
diseases, fungus, 2467
growing in India, 577h
nutrition—
manuring and major elements, 2387
minor elements, 460
salt absorption, 2088j, 3078
physiology, ion exchange in root cells, 2059
seed germination, 2466
seed treatments, 408, 2467, 3414, 3523
soil management, weed control, 352, 2371, 3381, 3383, 3387, 3389
sprays, composition affected by, 3530
varieties, 3522
Begonia—
composition, 2762b, 3075
diseases, 1708
flower drop, 3718
nutrition, 1703, 3075
pests, nematode, 699, 1726
Begonia (*continued*)—
physiology, light and temperature responses, 698, 2676
propagation by cuttings, 2683
tuber size, 697
tuber storage, 1782e
Belgian Congo, crops, fruit and plantation, 945, 950m, 2897, 2994p
Belgian Congo, I.N.E.A.C., A.R., 1990
Belgium, crops, fruit and nuts, 76, 181f, 181n, 1161
Bemisia tabaci, 1581
Berberis spp., propagation by cuttings, 726
Bermuda Dep. Agric., A.R., 2008g
Bermuda grass—*see Cynodon* spp.
Betula spp.—
light responses, 1759
pests, 3794
propagation, vegetative, 1103
Bibliographies on—
agricultural meteorology, 2087k
drainage, 2088c
figs, 1091
irrigation, 2088c
mangosteens, 1960x
Bicarbonate, chlorosis induced by, 3812
Bicarbonate, photosynthesis affected by, 3466
Bidens pilosa, 2368, 3365
Biennial bearing in fruit and nut trees—*see also* Apple, Citrus *and* Mango *under* fruiting—832
Bignonia purpurea, 2655
Bignoniaceae, propagation of, 1770
Bile, growth promoting action of, 33, 1214
Bindweed control, 373, 1378, 2361, 3354
Biological control—*see* Pest control, Disease control, *and* Weed control, biological
Birch—*see under Betula*
Birds—
harmful, control—
by electric current, 3337v
general, 347e, 2680
with scarers, 1991, 3324
insect pests affected by, 337
seeds distributed by, 3240h
trees and shrubs for, 743e
Bischofia javanica, 2660
Biuret injury to plants, 456, 2995q, 3090s
Bixadus sierricola, 3944
Blackberry—
breeding and selection, 1189, 3192
pests, 1348
propagation, vegetative, 186, 1189
seed dormancy and germination, 182
seed treatment, 3201
varieties, thornless, 3192
wild, control, 2356
wild, as a soil potash indicator, 1020
Black-currant—*see also Ribes*—
composition, fruit, 1190, 1240c, 2187
composition, leaf, 3139
diseases, fungus, 291
diseases, virus, 2270
fruit drop, 3240k
hybrids, 2184, 2185

Black-currant (*continued*)—
nutrition, 3742
pests, insects, 1346
pests, mites, 3338c
pollination, 2186
propagation, vegetative, 3742
pruning, 2142
soil management, weed control, 357, 3352
spray residues and taints, 3336
storage of fruit, 2187
varieties, 241q, 1240c, 2000
Blackwood exp. Orchard, work at, 1087
Blastothrix longipennis, 337
Blueberry—
breeding, 183, 1193
climate, spring frost protection, 3256
composition, fruit, 2189
diseases, bacterial, 3270
diseases, virus, 3338f
fruit development, 2189, 3193
fruit set, growth substance induces, 183
growing in Holland, 1194
growth phenomena, 3194
herbicide injury, 358
pests, 1371y, 2685
pollination, 2188
seed development, 2188
seed distribution by birds, 3240h
soil management, mulching, 1201, 2061
soil management, weed control, 3, 358, 2003
varieties, 241m, 1093, 1193, 2092
Boehmeria spp.—*see* Ramie
Boilers, types of, 3090o
Boleko—*see Ongokea gore*
Bolting—*see also* Temperature responses—in vegetables, 502, 503, 1047, 3511
Bombax spp., as fibre plants, 3021
Book reviews—*see* Reviews
Boron—
-calcium relationships, 3075, 3525, 3941
compounds, fungicidal uses of, 1848, 1849
cuttings treated with, 3742
determination, 3892h
foliar application, 1244, 1464, 3076, 3454
nutrition—
of fruit and nut trees, deciduous, 142, 251, 347d, 1244
of fruit and plantation crops, evergreen, 835, 1807, 2821, 2828i, 2870, 3688, 3896, 3910, 3937, 3941, 3950, 3990
of hops, 651
of ornamentals, 1049, 3075, 3742, 3757, 3808, 3813
physiological aspects, 3453, 4004
pollen germination affected by, 3077, 3910, 3992
root development affected by, 3076
seed quality affected by, 3525
of small fruits, 221, 1243, 2003, 2245, 3742
of tobacco—*see* Tobacco
of vegetables, 544, 1464, 2482, 2517, 2831, 3075, 3076, 3452-3455, 3525
-sodium relationships, 3452
tolerance and toxicity, 251, 2482, 3757, 3813
Boronia spp., propagation, 725
Botanic(al) garden(s)—
Adelaide, A.R., 4029t
early, in Italy, 1084 l, 1782i
functions of, 2088g, 3089d, 3894
Moscow, for medicinal plants, 3712h
Nikitsij, 3026
Singapore, 2008p, 3894
Botany, books on, 957, 973
Botryodiplodia palmarum, 894
Botryodiplodia theobromae, 2842
Botryosphaeria ribis, 281, 2284
Botrytis—
cinerea, 292, 303, 558-562, 717, 1229, 1283, 2283, 2296, 2327, 2328, 2333, 2342d, 2342k, 2483, 2531-2533, 2657, 2701, 3284, 3286, 3288, 3337b, 3498, 3720
fabae, 466, 2658, 3604k
gladiolorum, 2715
spp., unspecified, 1731, 1747, 2332, 2461, 2714, 2716
tulipae, 2332, 2702, 3720
Boxwood pests, 730, 1761, 2686, 2763m, 3722
Bracharia brizantha, 861
Brachygastra lecheguana, 1336
Bracken (*Pteridium aquilinum*) control, 3350
Brassica(s)—*see also under* Crucifers *and individual crops*—
composition, edible parts, 577d
diseases, various, 1964, 3440
pests, 1585t, 3451, 3605d
seed—
identification, 577r, 3434
production, 1455
treatment, 3451
Brazil, crops—
fruit, 2827b
oil, 670g, 2659
plantation, 1959u
vegetables, 3604e
Breadfruit—
composition, 951 l
dehydration, 947
inflorescence, abnormal, 1956
propagation, vegetative, 2990
Breeding, plant—*see also individual crops under* breeding—
in the Belgian Congo, 2994p
in Canada, 3189d
in Norway, 394
X-rays aid—*see* X-rays
Bremia lactucae, 3541
Brevicoryne brassicae, 779, 1454, 2409, 2557w
Brevipalpus inornatus, 677
Brevipalpus lewisi, 3856
Brinjal—*see* Eggplant
British—
Colombia, Dep. Agric., A.R., 1981
Commonwealth, essential oil production, 2626
Honduras, crops, 744
Honduras, Dep. Agric., A.R., 3024a
West Indies centr. Sugar Cane Breed. Stat., Barbados, A.R., 907
West Indies, Sugar Ass. Handbook, 906

Broccoli—*see also* Cauliflower—
breeding and selection, 576o
composition, 422, 3437
diseases, 576o, 3443
growth substances affect, 2034
origin and taxonomy, 1585i
processing, 1586g
pruning, 3437
research at Rosewarne Hort. Stat., 1445
soil management, weed control, 1398, 3390
varieties, 3437, 3604v
Bromeliads, water and nutrient uptake, 3816 l
Bromine in plant nutrition, 547, 2516
Broomrape—*see Orobanche*
Brussels sprouts—
climate, evapo-transpiration losses, 2066
climate, lightning damage, 1036
composition, 432, 2556n
diseases, 408, 1445, 3444, 3445
nutrition, 432, 2388
pests, 2297, 2409
sprays, phosphorus supplied by, 432
varieties, 1445, 1446, 1996
weed control, 3390
Bryobia praetiosa, 280, 316, 1321, 1322, 2299, 3153, 3308
Bryobia ribis, 347h
Bryophyllum spp., physiological studies on, 1023, 1029, 2024, 2030
Bud(s)—*see also* Flower—removal, tree growth affected by, 1116
Bud(s), temperature measurement, 2087 l
Budding—*see also* Budwood, Grafting, *and separate plants under* propagation—
double-shield, 2110, 3120
flower cushion, in cacao, 3912
methods, general, 181j
wraps for, 1752, 2108
Budwood storage, 1106, 1960z
Bulb(s)—*see also individual plants*—
diseases, 1725
growing, a book on, 2008b
growing in various countries, 3751, 3816d
hot water treatment, 2702
lifting, machines, 3090q
pests, nematodes, 1725
planting methods, 2702
research in various countries, 2702, 2765
soil management, weed control, 2702
storage, 1782e
varieties, 2702
Bulgaria, pea growing, 2432
Bush fruits—*see* Small fruits
Butyrospermum parkii, 665, 2671w, 3017
Buxus—*see* Boxwood

Cabbage—*see also* Brassicas—
bolting, 993, 1047
breeding and selection, 418, 3435, 3604e
Chinese, 423, 427, 3435, 3604w
climate—
frost resistance, 1586e
temperature responses, 418, 423, 3432, 3435
wind protection, 2391
Cabbage (*continued*)—
composition, 422, 576h, 577k, 1015, 1448, 1585j, 2022, 2384, 2389, 2556n, 2556x, 3411
diseases—
bacterial, 3439
fungus, 408, 410, 425, 426, 2022, 2332, 2394, 2408, 3440-3442, 3446
virus, 1964
flower initiation, 423, 424, 2034
growth, developmental studies on, 3433
growth, growth substances affect, 1047, 2034, 3056, 3416
marketing, 1586f
mutations, 1450
nutrition—
bacterial fertilizers, 2404
foliar, 3064
manuring and major elements, 1084b, 1423, 1445, 1451, 2387, 2405, 3070, 3438, 3439
minor elements, 44, 1428, 2388, 2406, 3063, 3064, 3419, 3442
pests—
aphids (mainly *Brevicoryne brassicae*), 427, 779, 1437, 2557w
butterfly or worm (*Pieris* spp.), 427, 1445, 3449, 3604p
diamond back moth (*Plutella maculipennis*), 430, 431
flea beetle (*Phyllotreta* sp.), 3451
fly (root) (*Erioischia* spp.), 576x, 1523, 2000, 3446, 3451
looper (*Trichoplusia ni*), 429, 430, 3450
webworm (*Hellula undalis*), 430
weevils (*Ceuthorhynchus* spp.), 428, 3451
physiology and metabolism—*see also above under* climate—1038, 3416
pigments of red, 1085o
planting, spacing, 421, 2000
planting, time and motion studies, 420
root system, 2383
seed—
germination, 62
production, 424, 1450, 3435
sowing date, 1445
treatments, 408, 2003, 2392
seedlings, raising of, 419, 2402-2404
soil—
atmosphere requirements, 62
management—
irrigation, 397, 1429-1431
rotations, 397
weed control, 374, 1398, 3386, 3390
spray residues, 1585v
varieties, 391, 425, 969, 1449, 1585s, 3605j
Cabinet, thermo-hygrostatic, 3085
Cacao—*see also Theobroma*—
bean—*see also below*, seed—
composition, 1881, 2995h, 3021
drying, 2846, 3948
fermentation, 2845
fumigation, 3996i
pests, 3922

Cacao—bean (*continued*)—
pigments, 1882
storage, 3922, 3948
breeding and selection, 984, 3902, 3996c, 3996q
cherelle wilt—*see below*, fruit set and drop
Conference, Breeding, W.A.C.R.I., 3902
Conference, Inter-American, 1877
diseases—
fungus—
black pod (*Phytophthora palmivora*), 2839, 2842
blue rot (*Ceratostomella fimbriata*), 2843, 3914-3917, 3997c
brown pod (*Botryodiplodia theobromae*), 2842
monilia pod rot (*Monilia roreri*), 3919, 3920
root diseases (*Fomes*, *Ganoderma* and *Ustulina* spp.), 1880
stem canker (*Phytophthora faberi*), 3915
witches' broom (*Marasmius perniciosus*), 3918, 3996p
general, 844, 950i
virus vectors, 858, 1914
epiphytes on, 3913
field experiments, design and analysis, 857, 1013
flowering, annual cycle, 3909
flowering, methods of inducing, 3912
fruit husks (pod cases), uses of, 1061
fruit set, 1989, 3911
growing—
history, 856
in South America, 2993a, 3996o
in West Africa, 2993i
growth, growth substance responses, 3905
growth phases, 3908
leaf, water absorption by, 3907
nutrition—
foliar, 843
manuring and major elements, 841, 2840, 2841
minor elements, 2840, 3910, 3911
pests—*see also above*, bean—
beetle (*Steirastoma breve*), 859, 2844
capsids (*Distantiella*, *Helopeltis*, *Sahlbergella* and other spp.), 860, 984, 2839, 2842, 3921
cockchafer (*Apogonia* sp.), 2840
general, 844
mealy bugs—*see also above*, diseases, virus vectors—2839
pentatomid bugs (*Mecistorhinus tripterus*), 3920
Platypus spp., 3914
pod borer (*Pachyrrhynchus moniliferus*), 2842
scolytids (*Xyleborus* spp.), 3914, 3915, 3996d, 3997c
physiology, nutrient translocation, 2841
pod—*see above*, fruit
pollination and pollen germination, 1989, 3910-3912
Cacao (*continued*)—
polyploidy, induced, 1878
production and trade, 951y, 2995p
propagation—
by budding, 3906
by budding and scion rooting, 1879
by cuttings, 984, 2839, 3904, 3905
research in Malaya, 1995
research in West Africa, 2839, 3996h
rootstock-scion relationships, 3906
seed storage, 984
seed treatment, 3903, 3918
shading, 841, 2832
trees, destruction of diseased, 2357
varieties, 1960p, 2843, 3996p
Cacoecia pronubana, 1717, 2691
Cacti—*see also* Succulents—
pests, 2733
propagation, 1782s, 2762y
Rebutinae, classification, 2762i
seed separation from mucilage, 1749
Caedicia spp., control, 1785
Caesalpiniaceae, composition, seed, 1053
Caesium in plant nutrition, 2057, 2059, 3417
Café, *Cacao*, *Thé*, a new periodical, 4028
Caffeic acid in plants, 404, 2612, 3664k
Calacarus spp. on citrus, 784
Caladium spp., culture, 3816q
Caladium spp., spray injury, 2681
Calancoba spp., essential oil plants, 664
Calcium—*see also* Liming—
absorption through bark, 3133
contents of plants, factors affecting, 576h, 2163, 3210
cyanamide, as a herbicide—*see* Herbicide compounds, cyanamide
determination, 1649, 2016, 2615r, 3089y
foliar application, 546, 1200, 3133, 3581, 3604m
interrelationships with other elements, 455, 2472, 2768, 3075, 3525, 3941
nutrition—
of fruit and plantation crops, evergreen—*see also* Citrus *and* Sugar-cane—2870, 2967, 3896, 3937, 3938, 3941, 3990
of ornamentals, 3075, 3747, 3757, 3812
root aeration affects, 2588
seed quality affected by, 3525
of small fruits, 1200, 2245
of vegetables—*see also* Tomato—405, 545, 546, 1457, 1563, 2469, 2520, 3075, 3442, 3452, 3581, 3583, 3604m
oxalate content of plants, nutrient balance indicated by, 936
radioactive, 455, 1200, 2038, 2967, 3062, 3133
translocation, 3133
Calandra venatus, 2731
Calendula spp.—*see also* Marigold—diseases, 1706
Calendula spp., light responses, 2031
California—*see also under* United States—Dep. Agric., A.R., 983
Calla—*see under Zantedeschia*
Callistemon spp., propagation, 725

Callitris spp., propagation, 725
Callosobruchus chinensis, 3860
Calluna spp., ornamental, 742w
Calluna vulgaris, 669p, 1987
Callus formation, growth substances affect, 675
Calopogonium mucunoides, 3846
Calothamnis spp., propagation, 725
Calystegia sepium, 3352
Camellia—*see also* Tea—
diseases, 2286
flower drop, 3718
pests, 728
seed storage, 731
species and varieties, 1754
Year Book, roy. hort. Soc., 1775
Camphor basil (*Ocimum* spp.), 2031, 2627
Campsis radicans, 3077
Canada—*see also individual provinces and exp. stats.*—
crops—
fruit and nut trees, 3093, 3094, 3189d, 3189q, 3189r
ornamentals, 742j
small fruits, 3207, 3240i
vegetables, 1414
Dep. Agric., Dir. exp. Fms Serv., A.R., 4029c
Dep. Agric., Dir. Sci. Serv., A.R., 4029d
horticultural education, 3089k
horticulture, 4011
Minist. Agric., A.R., 1982
nat. Res. Coun. Review, 2008h
ornamental plants and trees in, 3816c-3816e, 3816r
weeds and their control, 1377, 2380g, 2380h
Cananga odorata, 670d
Candida malicola, 1160
Canna, nectar secretion, 1782n
Cannabis sativa—*see* Hemp
Canning—*see separate crops under* processing *or* products
Cantaloup—*see under* Melon
Cape gooseberry—*see Physalis peruviana*
Capitophorus minor, 3338b
Capsella bursa-pastoria, 1380, 3352
Capsicum—
breeding and genetics, 514, 520, 993, 2556t, 3604u
composition, 517, 519, 537, 2507, 3665
diseases—
bacterial, 2529, 2553
fungus, 410, 567, 604, 998, 2328, 2395, 2551, 2554, 3593
virus, 556, 576y, 984, 2552, 3587
fruit, parthenocarpic, 3225
fruit pigments, 519
growing in Australia, 1585p
growing in frames, 53
growth-substance responses, 533, 1047, 1426, 2035, 2507
growth, shoot types, 520
harvesting, 3665
medicinal uses, 3665
nutrition, 537, 993, 1423, 1426
pests, insects, 514
Capsicum (*continued*)—
pests, nematodes, 1574
products and by-products, dyes, 3665
rootstock, *Capsicum* sp., 2556t
seed sowing direct *vs* transplanting, 2551
seed storage, 993
soil—
management, irrigation, 397
management, weed control, 1398
pH requirements, 45
spray injury, 1710
varieties, 391, 984, 1574, 2556t, 3604u
virus inhibitors in, 1547
Capua reticulana—*see Adoxophyes orana*
Caragana arborescens, 1025, 2752, 3795
Carbohydrates—
determination, 2618
flowering in relation to, 3734
leaching from leaves, 3090p
in seeds, 1923
virus susceptibility in relation to, 3493
Carbon—
dioxide—*see also* Photosynthesis *and* Respiration—
absorption by fruit, 1175
absorption by roots, 26, 1175, 3632
alkaloid biosynthesis in relation to, 3632
fixation, 2088d
in leaves, stomatal movement affected by, 3039, 3040
in soil, plant responses to, 2588
for storage—*see* Storage, gas
supplementary, for glasshouse crops, 25, 403, 527, 2557e
monoxide, plant responses to, 2587
radioactive, 26, 63, 66j, 179, 194, 1016, 1017, 1019, 1175, 1622, 3171, 3629, 3632, 3785, 3870, 3899
Cardamoms (*Elettaria, Amomum* and *Aframum* spp.), 669a, 1959w
Cardoon (*Cynara cardunculus*), 1695
Carex spp., control, 356, 1379
Carnation—*see also Dianthus*—
breeding and genetics, 3713
climate, frost injury, 742c
composition, 680, 1716
diseases—
fungus—
root rot and wilt (*Fusarium* and *Verticillium* spp.), 683, 684, 2332, 2689, 3815v
rust and smut (*Uromyces caryophyllinus*), 2328, 2684, 2687
stem rot (*Alternaria dianthi*), 2332, 2684
various, 676, 682, 683, 1709, 1783d, 3721
in the U.S.A., 1706
virus, 2688
flowering time, factors affecting, 3728
flowers, fumigation of cut, 1712, 1717
flowers, quality, factors affecting, 1716, 2687
growing—
a book on, 2008b
under glass, 742j
ring culture, 2556b

Carnation (*continued*)—
growth, growth substances affect, 3713, 3729
mutations, 681, 2762o
nutrition, 1703, 1716, 2687, 3713
pests, insects and mites, 1363, 1712, 1717, 2690, 2691
physiology, transpiration, 2497, 3727
physiology, X-ray responses, 3728
pinching, 3729
plants or cuttings, packing and storage, 1715, 3730
propagation by cuttings, 671, 672, 681, 683, 1715, 1783d, 2675, 2762p
soil requirements, 3727
varieties, 679, 742f, 2689, 2762o
Carob (*Ceratonia siliqua*), seed treatment, 1057
Carotene—*see* Vitamin A
Carotenoids—*see under* Pigments
Carpinus tschonoskii, 742p
Carpocapsa pomonella—*see* Codling moth
Carpoglyphus lactis, 319
Carposina niponsis, 3311
Carpotroche brasiliensis, 664
Carrot—
breeding and selection, 1512
composition, leaf, 3524
composition, root, 1009, 1015, 1514, 2469, 2557u, 3411, 3524, 3525
diseases, fungus, 408, 1517, 2449
diseases, storage, 2470
flower bud differentiation, 1509
growth substance responses—*see also below under* root storage—2034
growth, top: root ratio, 2387
herbicide injury, 3385
nutrition, manuring and major elements, 2387, 2469, 3078, 3438, 3525
nutrition, minor elements, 1427, 2469, 3078, 3417, 3419, 3525
origin and development, 2556j, 2556k
pests—
insects, fly (*Psila rosae*), 1521, 1522
insects, various, 492, 1360, 1520
nematodes, 407, 1519, 2471, 3427
physiology—
carbon dioxide absorption in storage, 1175
respiration, 1031
tissue culture, 2050
water relations, 2469
pollination, 491
products, carotene, 2557u
root—
flavour, factors affecting, 1514, 1515, 2470
storage and pre-storage treatments, 493, 1175, 1183, 2470
system, 2383
yields, seed source affects, 2465
seed—
germination, 62, 492, 1510, 1511
production, 491, 492, 1520
quality, 2465, 3525
sowing rate and spacing, 1586i
storage, 1511
treatments, 408, 1422, 1509, 1517, 2392
Carrot (*continued*)—
soil—
atmosphere requirements, 62
management—
fumigation, 1435
ridging, 3, 2468
soil conditioner responses, 490
weed control, 352, 375, 388, 2372, 2374, 2375, 3383-3385, 3387-3389, 3391
spray residues, 1376, 1585k
storage—*see above*, root *and* seed
varieties, 1508, 1586i, 2000
wild, control, 3354
Carthamus tinctorius—*see* Safflower
Caryodendron orinocense, 3021
Cashew—
fruit characters, 951g
growing in various countries, 2993d
nutrition, 893
pests, 1786
research in India, 4021
seed germination, 948
seed variation, 2991
shell liquid, anacardic acid from, 951k
Casimiroa edulis, 1957, 1961f
Cassia spp., as sources of senna, 3675
Castor (bean)—
breeding and selection, 2661
composition, 2671s, 2672c
diseases, 1056, 2663
frost resistance, 3684
growing in various countries, 2671 l, 2671q
harvesting machines, 3704
physiology, glycerol utilization, 2662
physiology, light responses, 1027, 3041
production and trade, 3712f
products, oil, 1694, 2671s
research in various countries, 3017
root, pharmacognostic study, 2672c
seed hulling machines, 3704
seed treatments, 1056
soil management, weed control, 376
soil requirements, 45
varieties, 2671q, 4021
Catalpa sp., light responses, 1759
Catha edulis, 2830
Cattleya orchids—*see also under* Orchids—712, 1782y
Cauliflower—*see also* Brassicas *and* Broccoli—
breeding and selection, 576o, 3436, 3604e
climate, frost damage, 2407, 3436
composition, 1452, 2556n
diseases—
fungus, 576o, 1283, 3447
non-parasitic—*see also below*, nutrition, molybdenum—2407
virus, 1964
growing in various countries, tropical, 576q, 2401
growth, chemicals injure, 1440
nutrition—
bacterial fertilizer, 2386
manuring and major elements, 1452

Cauliflower—nutrition (*continued*)—
minor elements, various, 2388, 2406
molybdenum, 1452, 1453, 2406, 3436
pests, insects, 576e, 2557k, 3447, 3448
planting dates, 2407
planting methods, 3436
processing, 1416
propagation, vegetative, 3436
seed—
production, 576q, 3436
sowing dates, 2407
treatment, 1422
seedlings, raising of, 1991, 2386, 2403
soil management, weed control, 3390
varieties, 391, 1416, 1447, 2401
Caves, plants found in, 1007
Cawthron Inst., N.Z., A.R., 1983
Cedrela spp., in Poland, 742g
Ceiba pentandra—see Kapok
Celeriac—
nutrition, 548, 2387
pests, 3457
planting methods, 420
root system, 2383
seed treatment, 1422
Celerio livornica, 2319, 3315
Celery—
cell wall morphogenesis, 3453
composition, 1458, 3452, 3454
diseases—
fungus, 433, 434, 2329, 2410
non-parasitic, 1457, 2520, 3454, 3455
virus, 577f
economics, 3456
growth substance responses, 1047, 2034, 2035
harvesting, 1460, 3456
nutrition—
calcium, 1457, 2520
foliar, 1458
manuring and major elements, 44, 1456, 1458, 3452, 3454, 3455
minor elements, various, 44, 1458, 3452-3455
packing, 1460
pests, insect, 1459, 2556g
pests, nematodes, 407
planting methods, 3564
soil management, weed control, 380, 2376, 3387
spray residues, 1585v
Cell(s)—
division, growth substances affect, 1474, 3051
division, podophyllin affects, 1048
fruit, development of, 3131
physiology, 12, 13, 17, 3090f, 3407r
structure, 2088 l
walls, formation, factors affecting, 3453
walls in ripening fruits, 178
Cemiostoma scitella—see Leucoptera
Cephanodes hylas, 3944
Cerastium vulgatum, 360, 1395, 2365
Ceratitis capitata, 323, 346w, 839d, 999, 1337, 1338, 2311, 2796, 2797, 2827a, 3307, 3724, 3863, 3892p
Ceratostomella—
fimbriata, 904, 2843, 3914-3917, 3997c
paradoxa, 911, 2951, 2994f
spp., unspecified, 2296
Cercospora—
cladosporioides, 3882
coffeicola, 877, 1894, 2875
elaeidis, 894
musae, 1872, 2993e, 2993n
spp., unspecified, 993, 2570, 3686
Ceresa bubalus, 1335
Cereus flagelliformis, 2677
Cerium, radioactive, 2057, 3414
Cerococcus kalmiae, 3322
Ceroplastes rubens, 779, 788
Ceuthorhynchus pleurostigma, 428
Ceuthorhynchus quadridens, 1445, 3451
Ceylon—
Coconut Res. Inst., A.R., 861
crops, plantation, 868
Dir. Agric., Administ. A.R., 984
Rubber Res. Bd, A.R., 900
Chaenomeles japonica, 3816t
Chaenomeles spp., propagation by cuttings, 726
Chaetomium spp., on mushroom, 2457
Chamomile (*Matricaria chamomilla*), 1701p
Cheimatobia brumata—see Operophtera
Cheiranthus spp., breeding, 1783c
Chelates—*see also* Iron, Manganese *and* Zinc—
formation in plants, 2342p
growth reactions to, 32, 66s
as growth substances, 2044
in plant nutrition, 763, 2440, 2869
Chenopodium—
album, 1380, 1387
amaranticolor, 1024
ambrosioides, 2619
quinoa, 574
Cherimoya growing in various countries, 1090, 1961f, 2992
Cherimoya pollination, 2992
Cherry—
breeding and selection, 87
climate, spring frost injury, 255, 3257
climate, winter injury and hardiness, 256, 347g, 1255
composition—
fruit, 1185, 1187u, 2336, 3171
leaf, 3146
shoots and branches, 2134, 2182i
defoliation, artificial, 1113, 1117
diseases—
bacterial canker and leaf spot (*Pseudomonas* spp.), 2273, 3268, 3269, 3337z
bacterial, crown gall, 1279, 1280
cause uncertain, variegation, 1265, 3249
fungus—
collar-rot (*Phytophthora syringae*), 1301
shot-hole or coryneum blight (*Clasterosporium carpophilum*), 3282
silver leaf (*Stereum purpureum*), 1371x
virus, 266, 1265-1268, 1371z, 3337a
flower bud differentiation and development, 1113, 1117

Cherry (*continued*)—
flower, nectar production, 1128
fruit—*see also above*, composition, *and below*, packing, storage *and* transport—
anatomy, 255
bruising, 3171
cracking, 2003
drop, 1132, 1133
maturity, biochemistry of, 2177
growing in various countries, 76, 181o, 2182o
growth—
cessation, time of, 1118
rate, 1117
reductions, viruses cause, 266
leaf—*see also above*, composition *and* defoliation—area measurement, 3125
mutations, 3249
nutrition, manuring and major elements, 2134, 2182s
nutrition, minor elements, 2248
origin, 1101
ornamental types, 742d
packing, 2182o, 3189a
pests—
aphids, 2303
beetle (*Rhamphus pulicarius*), 3303
birds, 3324
fall webworm (*Hyphantria cunea*), 3314
fruit flies (*Rhagoletis* spp.), 346e, 2342s, 3305, 3306
leaf-hoppers, 1335
nematodes, 306
plum curculio (*Conotrachelus nenuphar*), 3304
physiology—
enzyme activity, 2133
photoperiodic responses, 1118
respiration, fruit, 3171
translocation, 1353
water relations, 112, 1144
planting, lay-out of varieties, 3099
planting on old cherry soils, 2182b
plum—*see Prunus cerasifera*
pollination, 181w, 1126
propagation by cuttings, root, 93
propagation by layering and stooling, 1103
rootstocks—
drought resistant, 1112
dwarfing, 2120, 2121
hardy, 256, 2111
identification in nursery, 2181p
mahaleb, 1255, 2120
mazzard or sweet (*Prunus avium*), 104, 1255
sour (*Prunus cerasus*), 2120
shoot anatomy, 1117
soil—
management—
cover crops and grass, 3098
intercropping, 3146
mulching, 1147
types and requirements, 3098
sprays, fruit composition affected by, 2336
Cherry (*continued*)—
sprays, injury by, 1132, 1133
storage, 170, 1183-1185
transport by rail, 3176
transport in water, 1187i
varieties, 85, 87, 181m, 181v, 1092, 2182p, 3099, 3107, 3189c, 3189g
Chestnut—
breeding and selection, 236, 2227, 2240s, 2240t
composition, fruit and nut, 2227
composition, leaf, 140
diseases, fungus, bark canker or blight (*Endothia parasitica*), 2240 l, 2240s, 2341f, 3295
diseases, fungus, ink disease (*Phytophthora* spp.), 236
pests, 335, 1332
pollen, antibiotics in, 2656
pollination, 2226
propagation, vegetative, 236, 1233
rootstock-scion incompatibility, 2240z
seed, orange-coloured, 2227
seed weight, pollen parent affects, 2226
soil requirements, 1144, 1145
soil waterlogging, 3081
varieties, 2241j
Chickweed—*see Stellaria media*
Chicory—*see also* Endive—
composition, 3547, 3666
diseases, 508
forcing, 1991, 2063
leaf morphology, 2489
nutrition, 3546, 3547
pests, 1656
root storage, 1656
varieties, 3546, 3604n
vernalization, 2489
weed control, 3382
Chile, vine growing, 241h, 241 l, 1347
Chilli—*see under* Capsicum
Chilling requirements of tree fruits—*see* Dormancy prolonged *and under* Temperature
Chilocorus bipustulatus, 3858
Chilotraea spp., on sugar cane, 4021
Chimaeras—*see under* Mutations
China—
crops, 838v, 1586h, 2183g, 2240h
grass—*see* Ramie
plant protection service, 1371s
Chinese cabbage—*see* Cabbage
Chinese water chestnut—*see Eleocharis*
Chloride—*see also* Salts—
content of leaves, time of bud burst affected by, 3224
as a plant nutrient, 547, 1605, 1608, 1615, 2516, 3419, 3616, 3747, 3812, 3938
plants injured by, 248, 1862o, 2566, 3840
Chlorine, radioactive, 2038, 3062
Chlorogenic acid and related compounds, enzyme inhibited by, 3067
Chlorogenic acid and related compounds in plants, 404, 951p, 2612

Chlorophyll—*see also* Pigments—
biosynthesis, 247, 2029
breakdown in Gesneriaceae, 2678
content of leaves, factors affecting, 36, 549, 2028, 2329, 2753, 3035, 3206, 3642
determination, 1960f, 3996m
Chloroplasts, 36
Chlorosis—*see also* Iron *and individual plants under* diseases, non-parasitic, *and* nutrition—
arsenic-induced, 849
genetical, 445
lime-induced, plant reactions to, 245, 1245, 2342o
phosphorus-induced, 511
Chondodendron tomentosum, 1701i
Chortophila brassicae and *floralis*—*see Erioischia*
Chortophila cilicrura—*see Delia*
Chromatographic methods in plant chemistry, 669j, 670 l, 950f, 1155, 1187u, 1371z, 1609, 1651, 1655o, 1988, 2022, 2023, 2087m, 2828o, 3089b, 3089p, 3089z, 3090a, 3434
Chromosome studies in azalea, 2762v
Chromosome studies, vegetable oil treatment as an aid to, 1694
Chrysanthemin in plants, 1158
Chrysanthemum—
breeding, 685, 2762r
cinerariaefolium—*see* Pyrethrum
composition of plants, 2634
diseases—
flower-distorting, 2762 l
fungus, 294, 689, 2332, 2634, 3720, 3739
in the U.S.A., 1706
virus, 1719, 3420
flower forcing, 997
flower malformations, 2762 l
flowering, factors affecting, 3736, 3737
growing in various countries, 685
growth, growth substances affect, 3717
nutrition, 743a, 2692, 3713, 3738
pests, insects, 1711, 2679, 3740, 3741
pests, nematodes, 995, 2693
physiology—
light colour responses, 1702
light intensity responses, 993, 997, 3734
photoperiodic responses, 3731-3733, 3735, 3736
photosynthesis, 1029
temperature responses, 3734, 3735
pinching, 688, 3736, 3737
plant packing, 687
propagation by cuttings, 672, 688, 1718, 2000, 2675, 2683
as a rootstock for dahlia, 3756
soil management, weed control, 3355
varieties, 685, 686, 2000, 2003, 3815k
Cicadas, control, 949
Cicadas as virus vectors, 1720
Cider apple—
growing in various countries, 3189i
nutrition, 3135
varieties, 2096
Cinchona—
composition, alkaloid, 2672 l
diseases, 3996f
growing in various countries, 1989
pests, 2994c
Cineraria—
diseases, 690, 1720, 2275
light responses, 25
nutrition, 25
Cinnamomum spp., essential oils, 1670, 1701d
Circaea lutetiana, 2037
Cissampelos pareira, 2620
Cistus ladaniferus, 1701f
Cistus spp., pollen, antibiotics in, 2656
Citric acid biosynthesis, 1823
Citron—*see under* Citrus
Citronella—*see Cymbopogon*
Citrus—
books on, 2997
by-products—*see below*, products
climate—
frost—
damage, 766, 838y, 2782
protection by magnetic currents, 259
resistance, physiology of, 1821
resistance of species and hybrids, 2781
rainfall, 3830
temperature responses, 764
wind damage and protection, 3831
composition—
analytical methods, 3892h
flower, 18, 2828o
fruit—
factors affecting—
nutrition, 2774
rootstocks, 2811
various, 772, 2773
general, 1823, 3875
grapefruit, 1850, 2811
lemon, 839a, 839e, 1815, 3166, 3870
lime, 845, 2774
mandarin, 1806, 1844, 3871
orange, 757, 761, 794, 839a, 1814, 1850, 1851, 1863i, 3871
leaf—
factors affecting, various, 792, 2773, 3840
general, 755, 2088s, 2828o
grapefruit, 1821
lemon and lime, 1821, 2827c, 2828g, 3839, 3844
mandarin, 1811, 1821
orange, 756, 757, 762, 792, 1819, 3834
plant, rootstocks affect, 3839
root, 2828g, 2828o
shoot, 2776, 2828o
diseases—
bacterial, 1862i
cause uncertain—
chronic decline of orange, 3853
creasing, 3838
decline of lemon, 2828g
decline of mandarin, 3833
fruit russeting, 3861

Citrus—diseases—cause uncertain (*continued*)—
lignocortosis or wood pocket of lemons, 2785
regreening, 764
sloughing, 1846
fungus—
black rot or stylar end spot (*Alternaria citri*), 803
blue and green moulds (*Penicillium* spp.), 804, 805, 1847, 1849, 2809
damping-off (*Corticium* and *Fusarium* spp.), 1834
fruit storage rots, general, 838b, 2827p
greasy spot or black melanose (*Mycosphaerella horii*), 2792
gummosis, tip blight and brown rot (*Phytophthora* spp.), 752, 777, 1862u, 2791, 2806
mal secco (*Deuterophoma tracheiphila*), 752, 778, 1835, 1862t, 2793, 2794, 2828k
melanose and stem-end rot (*Diaporthe* sp.), 767, 803
organism unidentified, 2827f
scab or verrucosis (*Elsinoë fawcetti*), 751, 2790
wither tip (*Colletotrichum gloeosporioides*), 2790
general, in various countries, 838e, 844, 1863e, 2783, 2827q
nematode caused, spreading decline, 796, 3854
non-parasitic—
dieback, 2784
dry stem, 767
mesophyll collapse, 3831
zebra skin, 2808
virus—
psorosis, scaly bark, lepra explosiva or leprosis, 1833, 2787, 3849, 3850
Rangpur lime disease, 2786, 3892t
scalybutt or exocortis, 1804, 1828, 2786, 2827r, 3829, 3849
seedling yellows, 3851
stubborn disease, 838 l
tristeza, quick decline, stem-pitting or root-rot, 838n, 839i, 839 l, 1826, 1827, 1829-1833, 2788, 2789, 2827s, 3851, 3852, 3892k, 3893b
xyloporosis, cachexia or little leaf, 1826-1828, 1862k, 3826, 3849, 3892k
economics, 1810, 1862b, 1862c, 2828n
experiments, field, 3832
flower biology, 771, 2780
flower bud initiation and development, 769, 1822
frost—*see above*, climate
fruit—*see also above*, composition, *and below*, harvesting, marketing, packing, products *and* storage—
carbohydrate metabolism, 3870
characters, rootstock affects, 754
citric acid biosynthesis, 1823
colour, factors affecting, 2808
Citrus—fruit (*continued*)—
drop, factors affecting, 767, 773, 3848
drop, growth substances retard, 767, 774, 3848
fumigation, 3873, 3874, 3892p
grafting, 3869
injury, sulphur causes, 3868
irradiation, 2809
malformations, 1801, 2827t
maturity, sprays affect, 775, 1824
maturity tests, 1850
parthenocarpic, 2827t
pigments, 3871
quality—
factors affecting—
nutrition, 758
pollination, 772
rootstocks, 2811, 3828
sprays, 775, 794, 795, 1863i, 2800, 3865, 3866
various, 1820, 2778, 2810, 3869
tasting tests, 807
respiration, 839n
russeting, 3861
shape, pollen parent affects, 770
size, factors affecting—
growth substances, 775
nutrition, 757, 838p, 1815, 1986
pollination, 772
various, 794, 795, 1824, 1863i
yields, various factors affecting, 775, 795, 1862y, 3830, 3867
fruiting, biennial, 1811
fumigation—
fruit, 3873, 3874, 3892p
soil—*see below*, soil management.
tree, 788
grading—*see below under* packing
growing—*see also below*, research *and* varieties—in—
Australia, 2997
Europe, 3892m
the Far East and South Pacific, 838v
the Near East, 3892a
North Africa, 3892n
South America, 745, 1862n
the U.S.A., 2828 l, 3892g
the West Indies and Central America, 744, 3892e
growth—*see also below*, physiology—
rhythms or phases, 3892f
root—*see below under* root
soil fungi affect, 838x
substance responses—*see also above*, fruit drop, *and below*, storage life—of trees, 2035, 2772
vitamins affect, 2772
harvesting, 798, 2828n
hybrids, 1801
junos, 1805, 1806
leaf—*see also above*, composition—
defoliation, flower development affected by, 769
mesophyll collapse, 3831

Citrus—leaf (*continued*)—
temperature, 765
marketing, 1862r, 2828q
mitis, 753
mutations, 1799, 2785
nutrition—
boron, 1807, 2828i
calcium, 3833, 3839
chlorides, 1862o, 3840
copper, 760, 761, 893, 1807, 1814, 2828i
foliar, 762, 2831
iron, 1817, 3841-3844
leaf and soil analysis as guides to, 3834
magnesium, 755, 757, 758, 762, 893, 1818, 2779, 2831
manganese, 755, 761
manuring—
general, 1862w, 3833
of oranges, 756-758, 761, 762, 1812, 1986, 3827, 3834
time of, 1812
minor elements, general, 839j, 3893c
molybdenum, 145
nitrogen, 756, 838s, 1813-1815, 1835, 2774-2776, 3830, 3835-3837
nutrient changes and redistribution under trees, 1816, 1818
phosphorus, 756-760, 1816, 2774, 2777, 3838
potassium, 756-758, 838p, 2774, 2778, 2779, 3838, 3839
sodium and salt tolerance, 839g, 1862o, 3839, 3840
zinc, 755, 760, 761, 763, 893, 1807, 1819, 2828i, 2831
orchard surveys, 1862y
packing—*see also below*, storage—
containers, boxes and cartons, 1162
containers, packaging bags, 801
methods, 2827b, 3893e
washing and cleaning, 3892s
pests—
ants, 3855
aphids (*Aphis* spp., etc.), 779, 780, 998
bagworm (*Oiketicus kirbyi*), 3892r
black fly (*Aleurocanthus woglumi*), 1352
a book on, 2795
borers (*Prays endocarpa*), 782
control—
biological and ecological—*see also below*, scales control—1862x, 2795, 3892r, 3892v
chemical, 844
general, 2827x, 3892w
curculios (*Otiorrhynchus cribricollis*), 781
dicky rice weevil (*Maleuterpes spinipes*), 1840
fruit flies (*Anastrepha*, *Ceratitis* and other spp.), 806, 838t, 1862x, 2796, 2797, 3307, 3863, 3873, 3892 l, 3892p
leaf hoppers (*Empoasca* spp.), 783
leaf miner (*Phyllocnistis citrella*), 780
Macrodactylus pumilio, 1786
mealybugs (*Ferrisia* and *Pseudococcus* spp.), 780, 1352, 1711

Citrus—pests (*continued*)—
mites—
brevipalpus or flat (*B. lewisi*), 3856
bud (*Aceria sheldoni*), 2827h, 3856
general and unspecified, 2827v
grey (*Calacarus* spp.), 784
Lorryia sp., 1837
oriental red (*Anychus orientalis*), 3859
red or purple (*Metatetranychus citri*), 779, 785-787, 1784, 1836, 2798, 2799, 3856, 3858, 3860
rust or Maori (*Phyllocoptruta oleivora*), 3856, 3858, 3861
six-spotted (*Tetranychus sexmaculatus*), 3856
yuma (*Tetranychus yumensis*), 3856
nematodes, 796, 838c, 1825, 1862m, 1862p, 2685, 2803-2806, 2827k, 2828m, 3854, 3893g, 3893i
orange worm (*Argyrotaenia citrana*), 998
Phaneroptera furcifera, 780
scales—
arrowhead (*Unaspis yanonensis*), 779, 788, 792, 1784
black (*Saissetia oleae*), 1352, 1837
control—
biological, 839p, 1862x
chemical, 779, 788-791, 793, 838m, 3862, 3874
co-operative scheme for, 1862 l
cottony cushion (*Icerya purchasi*), 1352, 1862x
general, in Surinam, 2827i
purple (*Lepidosaphes beckii*), 998, 1836
red (*Aonidiella aurantii*), 787, 791, 1838, 1839, 1862 l, 2800, 3863, 3864, 3893d
wax (*Ceroplastes rubens*), 779, 788
yellow (*Aonidiella citrina*), 791
snails, 3892x
tree hoppers (*Caedicia* spp.), 1785
western tussock moth (*Hemerocampa vetusta*), 2801
white flies (*Aleurothrixus* and *Dialeurodes* spp.), 1836, 2802
physiology—
of frost resistance, 1821
polarity, 2772
of roots, 1813
of thermal destruction, 1833
tissue culture, 3847
translocation, 763
water relations, 765, 767, 1820, 3831
planting—
heat treatment before, 1862u
methods, 1808, 2784
in old citrus soils, 838c, 1825
spacing, 1187n, 1809, 1862v, 3845
pollination, 770-772, 2780
products and by-products—
fodder, 1863a
juice—*see also above under* composition, fruit—807, 839b, 839k, 1850, 2810
marmalade, 838k
oil, 838w, 3893f

Citrus—products (*continued*)—
peel, 1851
various or general, 2828c, 3875
vitamin P, 1863g
propagation—*see also below*, rootstocks *and* seed—
budding, 3829
cuttings, 3823, 3824
marcotting, 2771
pruning, 1810, 1862v, 3150
research in Australia, 1086
research in Israel, 2765
ringing, 769
roots—
growth and distribution, 838i, 839m, 1802, 2777, 3837, 3845
nematode determination in, 3893g, 3893i
physiology, 1813
rootstocks—
Citrus junos, 1805, 1806
Empress mandarin, 3826
fruit characters affected by, 754, 2811, 3828
for grapefruit and pummelos, 753, 3828
leaf composition affected by, 3839
for lemons, 752, 776, 1802, 3828
for mandarins, 1805, 1806, 3827, 3828
nematode resistant, 2803
for oranges, 751, 1805, 2828b, 3826-3828, 3849
Rangpur lime, 3892t
scion incompatibility, 776
trifoliate orange, 1803, 1804, 2827r, 3829
Triphasia trifolia, 753
triploid, 1805
wind damage affected by, 3831
scion rooting induced, 1804
seed—
embryo culture, 3847
storage, 750
treatments, 1834, 2791
soil(s)—
fungus flora, 838x
management—
clean cultivation, 227, 1807
cover cropping, 1807, 2183a, 3846
fumigation and other chemical treatments, 796, 838c, 1825, 2806, 2807
irrigation, 768, 1820, 1862o, 2828e, 3830, 3840, 3892b
methods compared, 3846
mulching, 1807
weed control, 364
mapping, 746
oxygen requirements, 1144
pH effects, 838s, 2776, 2777, 3833
types, mite infestation related to, 785
types in California, 2827n
water tables, 3840
spray(s)—
fruit maturity or quality affected by—*see above*, fruit
injuries, 1841, 3868
oil fractions compared, 3866, 3867
programmes, 1863j, 2827q, 2828h, 3892w
Citrus—spray(s) (*continued*)—
and vapour residues, 1862h, 2828j, 3857, 3892q
storage—*see also above*, diseases, packing *and* seed—
chemical changes during, 3166
dips and coatings, 347j, 803, 805, 1183, 1844, 1848, 1849
ethylene for colouring, 800, 3872
life, 2,4-D and 2,4,5-T affect, 774, 775, 803
life, various factors affecting, 1806
relative humidity, 1843
temperatures, 799, 806, 1842, 1845, 1846, 3873
washing before, 1849
weight losses in, 801, 1848
wraps, 802
triptera, 838k
varieties—*see also above*, growing—
fruit-fly susceptibility, 2797
general—
collections, 838u, 1862d
fruit characters, 838d
for juice extraction, 1850
nucellar strains, 3893h
in various countries, 839h, 839o, 2827o
lemon, disease-resistance, 752
lemon, Meyer, 839i
mandarin—
Clementine, 72, 770, 771, 1842
nucellar strains, 1799
Satsuma, 839i, 1799, 1805, 1806, 1811, 1822, 1843, 1844
various, 747, 838d, 3825
orange—
hardy, 2781
for juice extraction, 839b
Oval, 2828r
Shamouti, 838h
Tarocca, 2782
in various countries, 748, 1800
pummelo, 749
tangelo, 838h
volkameriana, 752, 778
Cladosporium—
carpophilum—*see Fusicladium*
cucumerinum, 576c, 1059
effusum, 304, 1302
fulvum, 2080, 2328
herbarum, 2531
Clarkia flower drop, 3718
Clasterosporium carpophilum, 3282
Clematis seed, neutron treatment, 2762e
Clerodendron trichotomum, 663
Clidemia hirta, 1352
Climate—*see also* Drought, Frost, Hail, Lightning, Meteorology, Sun, Wind *and individual crops under* climate—
control in chambers or glasshouses, 50, 66h, 1033, 1034, 3085
dew or surface wetness measurement, 1371t, 3337n
micro- —
in glasshouses—*see* Glasshouse

Climate—micro (*continued*)—
instruments for studying, 2087v
soil management affects, 2161
of trees and bushes, 107, 2258, 2865
windbreaks affect, 2391, 2623
phenological records in various countries, 693, 2182h, 2182v, 2207
rainfall—
artificial stimulation of, 3031, 3089m
crop yields in relation to, 3830, 3931
damage to plants, 717
below trees, 1151, 2865
Clivia miniata, 3064
Clove—
diseases, 842, 1995, 2848
drying, 842
products, a review, 2847
propagation, vegetative, 4021
Clover control in turf, 360, 3375
Clysia ambiguella, 1345
Cnidocampa flavescens, 1352
Cob nut, hazel and filbert—*see also Corylus*—
breeding, 2240q, 2240r
climate, winter injury and resistance, 2240x
diseases, virus, 1261
flower biology, 4016
growing in various countries, 1240n, 1240v, 2228, 2241b, 3240o, 3240s, 3240t
nutrition, 2230
pests, 1331
physiology, enzyme activity, 2133
propagation, 2229
pruning, 3150, 4012
rootstocks, 2240p
seed germination, 2225
soil requirements, 2230
varieties, 1998, 2228, 2240x, 2241j
Cobalt in plant nutrition, 220, 543, 2922
Cobalt, radioactive—*see also* Gamma irradiation—458, 3062-3064
Coccids, a book on, 2996
Cocculus laurifolius, 2681
Coccus—
africanum, 3945
hesperidum, 1711
viridis, 1894
Cochliotis melolonthoides, 928
Cockchafer—*see also* White grub—control, 346o, 3302
Coconut—
breeding and selection, 861
climate, cyclone damage, 1959n
composition, leaf or nut, 861, 862, 950f, 1959f, 2995a
diseases—
cause uncertain, 864, 1960s, 2852, 2994f
fungus, 2994f, 2995r, 3924
in various countries, 950q, 951e, 2890
virus, 3997e
economics, 2994k
flower drop, 2850
fruit—*see below*, nut *and* seed
growing in various countries, 868, 950j, 1959x, 1960e
Coconut (*continued*)—
growth-substance responses, 2850
the name and its spelling, 1959k
nurseries, 1960h
nut—*see also below*, seed—
abnormalities, 865
fall, 1885
milk (water) for tissue culture, 1050, 2050, 3847
nutrition, 861, 863, 864, 892, 893, 950t, 1959w, 2849, 2852, 2890, 3923, 3996s
pests—
caterpillars (various spp.), 1352, 2994n
coreid bugs (*Amblypelta* and *Pseudotheraptus* sp.), 842, 1885, 3014
leaf mining beetle (*Promecotheca reichei*), 1352
Melittomma insulare, 2854
rhinoceros beetle (*Oryctes* spp.), 861, 866, 867, 951h, 2855, 2994s, 3923, 4026
scales (*Aspidiotus* spp.), 1352, 1886
in various countries, 2993r
weevils (*Rhynchophorus* spp.), 2855, 2856
planting, 861, 1883, 1960h, 2890, 3924
products—
coir, 984
copra, 868-870, 1959z
oil, 2851, 2995a
toddy, 1884
vinegar, 861
research in—
Ceylon, 861, 984, 3923
France and French colonies, 2889, 3017
Malaya, 1995
seed—*see also above*, nut—storage, 861
soil—
fertility and infertility, 862, 863
management—
cover crops, 861
fumigation, 861
intercropping, 669a, 841, 950c, 951t, 1701a, 2849
weed control, 366
varieties, 1960e, 4021
Codling moth (*Enarmonia pomonella*)—
bait and light traps for, 2315
control—
biological, 2313
chemical, 324-329, 1342, 2312, 2316, 2339, 2342j, 3020, 3308, 3309, 3334
supplementary measures, 3309
legislation against, 1324
time of emergence and warning services, 2314, 2315
Coffea arabica, wild, 951x
Coffea congensis, 1960k
Coffee—
beans—*see also below*, processing *and* seed—
composition, 2857, 2871
pests and their control, 2993j
quality, factors affecting, 2882
storage, 3948
yields, variations in, 1891
Board, Indian, A.R., 1888

Coffee (*continued*)—
a book on, 1968
breeding and selection, 950y, 2994j
by-products, waste as fertilizer, 2994 l
climate—
drought responses, 1899
frost or cold injury and protection, 1892, 2872, 2994q, 3935
growth in relation to, 871, 2863
rainfall, 2865, 3931
wind protection, 996
composition, bean, 2857, 2871
composition, leaf, 874, 875, 1960g, 1960v, 2857, 2866, 2868, 2869, 2871, 3940, 3997f
diseases—
bacterial, halo blight (*Pseudomonas* sp.), 2874
cause uncertain, witches' broom, 1960k
fungus—
berry disease and die-back (*Colletotrichum coffeanum*), 877, 1894, 2876
black rot, koleroga or thread blight (*Pellicularia* (*Corticium*) *koleroga*), 1897
brown eye spot (*Cercospora coffeicola*), 877, 1894, 2875
canker (*Nectria dodgei*), 1896, 2878
damping-off (*Corticium solani*), 1894, 1895, 3944
derrite (*Phyllosticta coffeicola*), 3943
leaf spot (*Omphalia flavida*), 878, 879, 2879, 2880, 3942, 3944
pink disease (*Corticium salmonicolor*), 3944
root disease (*Rosellinia* spp.), 1898
rust (*Hemileia* spp.), 2877
general, in various countries, 844
non-parasitic, 1892, 1894, 2873, 3896
economics, 951f, 1959u, 3997q
field experiments, design, 3090c, 3925, 3932
field experiments, factors to consider in, 1960n
flower biology, 3929
flowering, nutrient needs affected by, 3936
fruit set, factors affecting, 3939
growing—
in East and Southern Africa, 951x, 1968, 2830
in the Far East and the Pacific, 2858
in India, 2994i
in Jamaica, 1887
mechanization of, 1959a, 2859
in South America, 950p, 1961e
in West and Central Africa, 2859, 3996x
growth cycle, 871, 2863
labour requirements, 2994v
leaf fall, 1899
leaf, stomatal movements, 3039
nutrition—
foliar, 843, 877, 2995q, 3896, 3940
leaf analysis as a guide to, 874, 875, 2868, 3896, 3941, 3997f
manuring and major elements, 838s, 841, 1959w, 1960m, 2866-2868, 2870, 2995j, 3936-3939
Coffee—nutrition (*continued*)—
minor elements, 893, 1893, 2866, 2869, 2870, 3896, 3937, 3938, 3941
pests—
antestia bugs (*A. faceta* and *A. lineaticollis*), 951d, 2881, 3945
ants (several species), 880, 881, 1959r, 3944, 3946
berry borer (*Stephanoderes hampei*), 3944
caterpillars (*Dichocrocis* and other species), 3944
general, in various countries, 844, 3945
green bug (*Coccus viridis*), 1894
green scale (*Coccus africanum*), 3945
lace wing bugs (*Habrochila* spp.), 2881, 3944, 3945
leaf miners (*Leucoptera* or *Perileucoptera* spp.), 1899, 1900, 3944, 3945
mealybugs (*Pseudococcus* and other spp.), 881, 882, 998, 3945, 3996y
nematodes, 1894, 1959s
stem borer (*Bixadus sierricola*), 3944
weevils (*Araecerus fasciculatus*), 2993j
white borer (*Anthores leuconotus*), 3945
planting—
hedge system, 1959m
methods, general, 1961d, 1961j
spacing, 3928
transplanting, 872, 873
pollen and pollination, 3929
processing, drying, 2883, 3947, 3948, 3997u
processing, fermentation and washing, 2857, 2994o
production and trade, 2995k
propagation by cuttings, 950k, 2862, 3927
propagation by grafting, 3927
pruning, 876, 2857, 2872, 3930
research—
exp. Stat., Lyamungu, Moshi, A.R., 2857
in Hawaii, 4017
in India, 1888
in Indonesia, 1989
in Kenya, 1889
in Rhodesia-Nyasaland, 4022
roots, nutrient utilization by, 3936
seed—
drying, 3926
sale of, 2861
treatment, 1959s
shade—
requirements, 996, 1959m, 1960o, 3930
trees and other plants, 2832, 2864
trees, rainfall distribution under, 2865
soil(s)—
indicator plants, 1960q
management—
cover crops and green manuring, 1959s, 1959u
intercropping, 2857
irrigation, 1959y, 1961k, 2868, 3932-3934
mulching, 996, 2857, 2866, 2868
weed control, 365
pH effects, 838s, 2867

Coffee (*continued*)—
soilless culture, 950k
sprays, concentrate, 1961a
varieties—
clonal, 2860
nana, 3929
seedling arabica, 1890
seedling robusta, 2860
Cola spp., destruction with herbicides, 2357
Colchicine—
in plant breeding work, reviews on, 2762a
plant sources, 2671p
treatment—
of fruit and plantation crops, 838g, 1207, 1878, 2185, 3240n
of ornamental plants, 700, 1736, 1738, 1783c, 2694, 2705, 3715
of vegetables, 1544
Cold injury to plants—*see* Frost *and* Temperature, low
Coleus—
leaf abscission, 1032, 2045, 3044
light responses, 1027
propagation by cuttings, 2675, 2755
Colletotrichum—
coffeanum, 877, 1894, 2876
gloeosporioides, 2790, 3822
lagenarium, 2422
lindemuthianum, 408, 462, 1490, 2408
phomoides, 3589, 3590
spp., unspecified, 604, 605, 617n, 2410
spinaceae, 408
tabacum, 2559
truncatum, 462
Colocasia antiquorum, 1782m
Colombia, crops, 1746, 2373, 2671v, 2824, 2997t, 3996o, 3997t
Colonial Res. Coun., A.R., 4015
Colour—*see also* Pigments—charts, horticultural, 1006, 1988
Colour, measurement, apparatus and methods, 1197, 3196
Comité Appl. Méth. isotop. Rech. agron., Gembloux, A.R., 4029i
Commercial Grower Handbook and Diary, 1003a
Commiphora pilosa, 1755
Commonwealth agric. Bureaux, organization, 66v
Commonwealth econ. Cttee, Rep., 662, 1984
Composts—*see also* Mushroom *and* Soil, potting—
John Innes and other standard mixtures, 66g, 673, 3018
sterilization, 48
from straw, 47
from town wastes, 1223
Compsilura concinnata, 1773
Coniella diplodiella, 1306
Conifers—*see also* Trees and shrubs *and separate species*—frost damage, 743c
Conifers, weed control, 1384, 1385
Coniothyrium concentricum, 2735
Coniothyrium spp., unspecified, 2275
Conium maculatum, 669g
Conoderus vespertinus, 3655
Conotrachelus nenuphar, 2310, 3304
Containers for packing fruit and vegetables—*see* Packing, containers
Containers for raising plants—*see under* Nursery stock *and* Pot
Contarinia pisi, 473
Convallaria majalis—*see* Lily-of-the-valley
Cook Islands, crops, 3605 l
Copper—
interrelationships with other elements, 760
nutrition—
of citrus—*see* Citrus nutrition
of tobacco, 1617
of tropical crops, various, 893, 1909, 1933
of vegetables, 1427, 2480
sulphate as a herbicide, 3347
Cordana musae, 2642
Coreopsis flower pigments, 1783a
Coriander nutrition, 670f
Coriolus versicolor, 2281
Cork oak (*Quercus suber*), 1701g, 4029m
Cornell Univ. agric. Exp. Stat., A.R., 4029e
Cornus—
florida, 1758, 1768
kousa, 1758
spp., light responses, 1759
spp., propagation by cuttings, 1758
Corticium—
rolfsii, 1066
salmonicolor, 3944
solani, 408-410, 434, 469, 1284, 1305, 1709, 1894, 2425, 2760, 3595, 3671, 3721, 3760, 3944
spp., unspecified, 1283
Cortisone, plant sources of, 3673
Corylus—*see also* Cob nut—*jacquemontii*, 2225
Corynebacterium—
betae, 3523
flaccumfaciens, 3494, 3495
michiganense, 2557v, 3588
nicotinovorum, 1655u
Corynespora melonis, 2423
Coryneum beijerinckii—*see Clasterosporium carpophilum*
Corypha spp., identification, 742n
Cosmopolites sordidus, 854, 2993z
Cosmos, polyploidy, 2694, 3715
Costs—*see under* Economics
Cotinis nitida, 2308, 2608
Cotinus coggygria, 732
Cotyledons, culture of isolated, 1917
Cotyledons, variation in number, 1546
Couch grass—*see Agropyron and Cynodon* spp.
Coumarin compounds, analysis, 3893f
Cover crops—
for deciduous fruit trees—*see also* Apple *and* Peach *under* soil management—1148, 1150, 2165
diseases spread by, 2980
frost protection by, 2165
for green manuring, 535, 577e, 1959u, 2833, 2834, 3622

Cover crops (*continued*)—
for hops, 649
machines for mowing, 153
plants—*see also under Crotalaria, Desmodium and Tephrosia*—
Bracharia brizantha, 861
Calopogonium mucunoides, 3846
clover, subterranean (*Trifolium subterraneum*), 3144
grass and clover swards, 649, 1150, 2163
Stylosanthes spp., 861, 2980
turnip greens, 4019
for tobacco, 1609, 3622
for tropical and subtropical crops—*see also* Citrus, Coffee *and* Tea *under* soil management—832, 834, 861
for vines—*see* Vine, soil management
Crabgrass (*Digitaria* spp.) and its control, 365, 390d, 390f, 1394, 1993, 3364, 3365, 3367, 3372-3374
Cranberry—
diseases, 2331, 3197
fruit colour and pigments, 3196
growing in various countries, 3195, 3240i
herbicide injury, 1379
nutrition, 3, 1982
packing, 3197
pests, 3322
spray programmes, 1371e
varieties, 2092
weed control, 350, 1371e, 1981
Crataegus spp. as rootstocks for fruit trees, 2111
Crayfish control, 2680
Crematogaster spp., harmful ants, 858, 3855
Crepis leontodontoides, 2037
Cress, vitamin C biosynthesis, 1017
Criconemoides spp., virus vectors, 1275
Crocus, colchicine responses, 2705
Crocus varieties, 2763d
Crotalaria—
spp., comparative studies, 2833, 2834
spectabilis, 1959s
usaramoensis, 952a
Croton haumanianus, 2832
Crown gall (*Bacterium* (*Agrobacterium*) *tumefaciens*)—
control, 275, 1280, 2663, 3779
incidence, fungicides stimulate, 1279
on plants—
deciduous fruit and nut trees, 275, 1279, 1280, 2280
miscellaneous, 1681
ornamentals and succulents, 723, 3779
small fruits, 3270
Crucifers—*see also* Brassicas *and individual crops*—diseases and pests, 576k
Crucifers, seed oils, 3712a
Cryptognatha nodiceps, 1886
Cryptolaemus montrouzieri, 3858
Cryptomyzus ribis, 1363
Cryptorrhynchus lapathi, 1772
Cucumber and gherkin—*see also* Cucurbits—
breeding, 576c, 576l
Cucumber (*continued*)—
climate—
frost resistance, 1420
light responses, 25, 400, 401, 442, 527, 1419, 2413, 2414, 2416
temperature responses, 2414
wind protection, 2391, 3415
composition, 536, 1295, 2384, 3411
diseases—
bacterial, 2421, 2427
fungus, 576c, 1059, 1295, 1468, 1585d, 2332, 2422-2425, 2427, 3469
virus, 1467, 1585m, 3458
flowers, sex expression, 439, 1462, 3461, 3462
fruit—
deformation, 1465
quality, 1470
set and parthenocarpy, 2034
storage, 443, 444, 1183, 2427, 3472
growing under glass, 1461, 2072, 2385, 2416
growth, growth substance responses, 440, 1047, 1421, 1426, 1462, 2413, 3049, 3090e, 3461
growth, insecticides affect, 1469, 3470
harvesting, 1470
nutrition—
carbon dioxide, 25, 403
disease relationships, 2421
foliar, 1426, 3064
manuring and major elements, 455, 993, 1423, 1463, 1982, 2417, 3072, 3466
minor elements, 1426, 3064
pests, 3470
physiology and metabolism—*see also above*, climate—403, 443, 527, 1433, 3072, 3466
planting, spacing, 993
pruning and training, 2419, 3463
root system, 2383, 3463
seed—
germination, 436, 2414
production, 576l
storage and longevity, 3462
treatments, 1056, 1059, 1418, 1420, 2413, 2445, 3462
seedling production, 1420, 2412, 2414
soil—
aeration, 536
management, irrigation, 1430
management, weed control, 357, 377, 1398, 2371
soilless culture, 2418
spray residues, 3020
varieties, cucumber, 1416, 1585d, 2416, 2557j, 3458
varieties, gherkin, 1470
Cucurbita spp., hybrids, interspecific, 3459
Cucurbita spp., as rootstocks for melons, 3464
Cucurbits—*see also Cucurbita and individual crops*—
diseases, fungus, 2449
fruit, parthenocarpic, 3225
nutrition, 2404
seed treatment, 3414
weed control, 993

Cumin (*Cuminum cyminum*), diseases, 3667
Curare, sources of, 1701i
Curcuma longa, 2671x
Currant—*see* Black-currant *and* Red-currant
Curvularia lunata, 1731, 2717
Curvularia trifolii, 1982
Custard apple—*see Annona and* Cherimoya
Cuttings—
enzyme activity in, 14
leaf area, rooting related to, 2675
leaf-blade, 1023, 1041, 2700
mist humidification for, 91, 671, 726, 1075, 1189, 1762, 1783d, 2077, 2106, 2229, 2739, 2759, 3089e, 3112, 3238, 3823
photoperiodic responses, 1023, 1758
plants propagated from—*for separate plants see each under* propagation—
ornamentals—
herbaceous—*see also* Carnation *and* Chrysanthemum—696, 2700, 2763g
succulents, 1023
various, 671, 2675, 2683
woody—*see also* Rhododendron *and* Rose—726, 732, 741, 993, 1754, 1758, 1762, 1764, 1765, 1770, 2749, 2754, 2755, 2759, 3797, 3814
small fruits—*see also* Vine—1103, 1189, 3198
temperate fruit and nut trees—*see also* Apple *and* Plum—91, 93, 1233, 2106, 2229, 3112, 3238
tropical and subtropical crops, tree and bush—*see also* Cacao, Citrus, Coffee, Olive *and* Tea—671, 901, 1789, 2988, 2990
tropical and subtropical crops, various—*see also* Sugar-cane setts—619, 624, 950a, 1658
various, 3699
plastic covers to protect, 726, 1103, 2700
propagating frames and pits for, 671, 1076, 3904, 3980
root, factors affecting regeneration of, 93, 2990
rooted, storage, 727, 1715
rooting media—
heating, 2063
moisture responses, 1718
types, 671, 984, 1764, 1765, 2106, 3823
source—
plants differing in age, 2754, 3797
plants differing in drought resistance, 3215
plants grown on different rootstocks, 2105
shoots of different ages or positions, 901, 2106, 3823
shoots treated with urea, 934
storage and stratification—*see also above*, rooted—934, 1715, 2104
temperature responses, 1718, 1764, 1765, 2749
tip, for virus elimination, 2688, 2695
treatment—
with antibiotics, 1783d
Cuttings—treatment (*continued*)—
with bile, 33, 1214
fumigation, 1712
with fungicides—*see also* Sugar-cane setts, treatments—1771, 1783d, 2683, 3905
with growth substances, 207, 624, 934, 1233, 1718, 1770, 2104, 2107, 2110, 2755, 2988, 3112, 3238, 3699, 3797, 3824, 3905, 3980
with various chemicals, 1596
wounding, 3810
Cutworm control, 998, 3424, 3654
Cyanide injury to plants, 1867
Cyclamen—
diseases, 2275, 2708, 3755
flower yields for cutting, 3754
flowering date, factors affecting, 2762x
growing in Norway, 2763b
growth substance responses, 675, 2706, 3717
leaf markings, 2707
leaf pigments, 3066
nutrition, 743a, 1703
pests, 1711, 2679, 2709, 2710, 3725
physiology, 2676
propagation, vegetative, 675, 2706
seed germination, 3753
species and varieties, 2706
Cycloconium oleaginum—see Olive diseases, fungus
Cydia molesta—see Fruit moth, oriental
Cydia pomonella—see Codling moth
Cylindrocarpon radicicola, 1307, 1725, 2708
Cymbidium orchids, diseases, 1747, 1782c
Cymbidium orchids, fumigation, 713
Cymbopogon spp., yielding citronella and other aromatic oils, 627, 984
Cynara cardunculus, 1695
Cynodon spp., as lawn grasses, 3765
Cynodon spp., as weeds, 356, 1394, 2361, 2368, 3364
Cyperus—
auricomus, 666
esculentus, 3604d
papyrus, 666
spp., as weeds (nutgrass), 365, 390i, 993
Cyprus, crops, sage, 1661
Cyprus Dep. Agric., A.R., 1985, 1986, 2008i
Cyrtepistomus castaneus, 1332
Czechoslovakia, crops, nuts, 2228

Dactylis glomerata, 3354
Dactylium dendroides, 476
Dacus dorsalis, 984, 3889, 3897
Dacus oleae—see Olive pests, fly
Daffodil—*see* Narcissus *and under* Bulbs
Dahlia—
frost resistance, 3756
growing in various countries, 3815d
insecticide injury, 2711
pests, 1727, 3723
rootstock, chrysanthemum as a, 3756
tuber storage, 1782e

Damping-off—*see also Corticium, Pythium and other relevant genera*—control—
biological, 469, 1434, 2394
with chemicals, 408-410, 434, 468, 1834, 1982, 2446, 2666, 3421, 3768, 3944
by cultural practices, 1764, 1765
by soil fumigation, 409, 1066
Damson—
planting, 2182b
pollination, 1187s
propagation by cuttings, 3112
Danish—*see under* Denmark
Daphne, water relations, 1030
Dasylirion longifolium, 2638
Dasyneura affinis, 742s
Dasyneura mali, 1336
Date—
climate, temperature sums, 812
diseases, 2813, 2827q
fruit—
composition, 813
fumigation, 1712
quality, factors affecting, 1853
ripening, artificial, 2814
ripening, chemical changes during, 813, 2814
and stones as fodder, 1862a
storage, 815, 1183, 2814
thinning, 810, 811, 1853
growth, sucker, 2828d
history and distribution, 838q
pests, 814, 1712
photosynthesis, 809
pollination and pollen, 810, 2812
polyembryony, 3876
propagation by suckers, 1852, 2828d
soil water requirements, 808
Datura spp.—
composition, alkaloids, 670b
diseases, 620
intergeneric grafts, 3637
nutrition, 670b
Deer control and repellents, 2680
Deficiencies, mineral—*see also* Minor elements, Nutrition *and individual elements*—
diagnosis of, 67e, 1060, 2060, 2244, 2906
in temperate fruit crops, 1242, 2243, 2244
in tropical fruit and plantation crops, 1242, 2906, 3950, 3955, 3990
in vegetable crops, 3519, 3576
Defoliation—
with chemicals, 640, 3799
flowering responses to, 769, 1113, 1117
growth responses to, 1116, 1117
Dehydration—*see* Drying
Delia antiqua, 484, 2462, 2463
Delia cilicrura, 484, 3501, 3533
Delphinium diseases, 1706
Delphinium flower drop, 3718
Dendrocalamus spp., bamboos, 1673
Dendrophoma obscurans, 3284
Dendrothrips ornatus, 1761
Denmark, hort. Yearbook, 3012
Denmark, Seed Testing Stat., A.R., 3024i
Dermolepida albohirtum, 1939
Deserts, vegetable growing in, 452, 1415
Desmia funeralis, 3312
Desmodium heterophyllum, 2960
Desmodium ovalifolium, 1959m
Deuterophoma tracheiphila—see Citrus diseases, fungus, mal secco
Deutzia spp., growth in relation to weather, 2751
Deutzia spp., propagation by cuttings, 2749
Dew—*see under* Climate
Diabrotica undecimpunctata, 2422
Dialeurodes citri and *D. citrifolii*, 1836
Dianthus spp., cytology and hybridization, 3815i
Dianthus spp., mutations, 742b
Diaphania nitidalis, 998
Diaporthe citri, 767, 803
Diaporthe perniciosa, 2281
Diarthronomyia chrysanthemi, 3740
Diarthrothrips coffeae, 3945
Diatraea spp. on sugar cane—*see* Sugar-cane pests, borers
Dichocrocis crocodora, 3944
Dichocrocis punctiferalis, 331
Dichrostachys nutans, 353
Dictionary of horticultural terms, 3005
Didymella applanata, 1196
Didymella lycopersici, 2534, 3591
Dieffenbachia amoena, 2682
Diehliomyces microspora, 2457
Diervilla desboisii, 3
Diervilla florida, 1758, 2751, 3814
Digitalis purpurea, 3712i, 3816i
Digitalis spp., glycosides, 3676, 3712i
Digitaria—see Crabgrass
Dill processing, 1416
Dinoderus minutus, 667
Dioscorea spp., as medicinal plants, 621, 3673
Dioscorea spp., pests, nematodes, 1667
Diospyros—see also Persimmon—*mollis*, 3677, 3712p
Diplocarpon rosae, 717, 2763i, 3780-3782
Diplodia malorum, 2333
Disa uniflora, 2762w
Disease(s)—*see also* Bacterial *and* Virus *and separate pathogens and hosts*—
books on, 3999, 4009, 4010
composition and metabolism of plants affected by—*see also* Toxins, pathogen-produced—1295, 2022, 2342p
control—*see also* Antibiotics *and* Fungicides—
biological, 469, 1825, 2394, 2531, 3494
by changing soil reaction, 2394
by mulching, 3539
by ultraviolet irradiation, 2983
cultivation injury in relation to, 3495
enzyme activity induced by, 2556w
forecasting, 1371u
of fruit plants, 955, 1961 l, 2242, 4009
investigations, statistical methods for, 2341 l, 3030, 3246

Disease(s) (*continued*)—
of ornamental plants—*see* Ornamental plants *and* Trees and shrubs
resistance, factors affecting, 98, 650, 684, 690, 751, 821, 903, 1056, 1297, 1569, 1731, 1835, 2275, 2421, 2532, 2534, 2615m, 2658, 2874, 2876, 2909, 3439, 3955
of tropical crops, 1868
in various countries, 1960c, 3338d
Ditylenchus dipsaci, 607, 3746
Ditylenchus spp., unspecified, 684
Dock control, 2380e
Dodder (*Cuscuta* spp.), virus transmission by, 556
Dogwood—*see Cornus*
Doralis fabae, 1363
Dormancy—
breaking—
in bulbs and corms, 701
in vegetables, 3569
in woody plants, 2036, 3129, 3130
growth substances prolong, in onions—*see* Onion bulb
intensity, flower bud development in relation to, 3128
intensity, nucleic acid content in relation to, 3984
irradiations induce or prolong, 488, 526, 3569
prolonged, in deciduous trees and shrubs, 109, 993, 2261, 3130
seed—*see* Seed
in vines, 1240k
Dried Fruits Control Bd, Australia, A.R., 2008e
Driers—*see* Drying kilns
Drosicha stebbingi, 3949
Drosophila spp., on tomato, 568, 1579, 1580
Drought—
resistance—
factors affecting, 3215
of ornamental plants, 742m
reviews on, 972, 3089t
of wild fruit trees, 1112
responses of—
deciduous fruit trees, 68
evergreen fruit and plantation trees, 767, 1899
vegetables, 416
Drug plants—*see* Medicinal plants
Drying—
apples, 1186
breadfruit, 947, 951 l
cacao, 2846, 3948
cloves, 842
coffee, 2883, 3947, 3948
garlic, 1186
kilns and machines for—
coffee, 3997u
copra—*see under* Coconut products
papain, 896
tobacco—*see under* Tobacco curing
vegetables, 947
onions, 1991
Drying (*continued*)—
seaweed, 1700
seeds, 3926
vegetables, 987
Dryocosmus kuriphilus, 335
Dryopteris sp., physiology, 1027
Dunaliella bioculata, 668
Duranta plumieri, 2053
Dust(s)—
application from aircraft—*see* Aircraft
coated, fungicidal action, 941
materials—*see under* Acaricides, Fungicides, etc.
Dwarf plants, enzyme activity in relation to, 2025
Dwarfing, physiological, 111
Dwarfing trees, methods of, 95, 96
Dyes, plant sources, 2671z, 3665
Dysmicoccus brevipes, 2911

East Africa, gardening in, a book on, 4005
East Africa, Tea Res. Inst., A.R., 932
East Malling Res. Stat., A.R., 3016
Echinochloa spp., control, 1380
Economics—*see also* Labour *and* Trade—
capital value of fruit trees, 1110
of crops—*see also* Tobacco—
fruit harvesting, packing and marketing—*see* Harvesting, Packing house operations *and* Marketing
ornamentals, 4
temperate fruit and nut trees, 70, 2011, 2182j, 2183c, 3096
tropical and subtropical fruit and plantation—*see also* Citrus, Coffee *and* Hevea —952e, 1873, 2994k, 3997h
vegetables, 4, 1531, 1586g, 2381, 3428, 3456
of glasshouse construction, 2069
horticultural, general aspects, 1012
of mechanization, 951j, 1240e, 2859
of nursery management, 2182d
of plant protection, 71
Edinburgh and East of Scotland Coll. Agric., A.R. and guide, 1003c
Eggplant—
broomrape on, 372
composition, 536, 2507, 3411
diseases, fungus, 565, 2328, 2550
flower biology, 2549
frost resistance, 1420
fruit set and development, 2034, 3225
growing in France, 1586d
growth substance responses, 2034, 2507
nutrition, 543
pests, 1583, 2309
propagation by grafting, 1555, 1556
seed germination, 1548
seed treatment, 2550
soil aeration, 536
varieties, 391
Egypt, crops, fruit, 1090
Eichhornia crassipes—*see* Water-hyacinth

Elaeis (mainly *E. guineensis*—oil palms)—
breeding and selection, 887, 950b, 2892, 2895-2897, 2899, 2994h, 2994p
climatic responses, 2903
composition, fruit, 2898, 2908
composition, leaf, 891, 1909, 3017, 3952
Conf. on Oil Palms, Proc. Franco-British, 2889
diseases—
fungus—
anthracnose (various organisms), 894
Fusarium oxysporum, 1910, 2909
leaf spot (*Cerospora elaeidis*), 894
non-parasitic, nutritional unbalance, 1907, 1909, 2906, 3950
flower and fruit development, 2903, 2904
fruit, composition and colour, 2898, 2908
growing in Africa, 950n, 2889, 2993 l, 2994r, 2994w, 2994y, 2994z, 2995m
kernels, uses of, 3021
leaf development, 2904
nursery management, 888, 1904
nutrition, 891-893, 1905-1909, 2892, 2893, 2909, 3017, 3950-3952, 4004
palm oil, colour, 2898
palm oil, content, determination, 2908
physiology, water relations, 2905
planting methods, 2892, 2902
planting, spacing, 2892, 2894
pollination, 2907
pruning, 2892
research—
in British West Africa, 2890-2892
in French West Africa, 2890, 3017
in Malaya, 1995
root growth, 890
seed germination, 889, 2900, 2901
seedlings, botany, 1959d
soil management, cover cropping, 3017
soil management, intercropping, 2892-2894
varieties, 2898
Elder, berry pigments, 1021
Elder, leaf exudates, antibiotics in, 2657
Electric(al)—
current, bird control by, 3337v
current, roots generate, 3090h
fermentation of tobacco, 2614
heating, soil—*see* Soil
heating, space, 66p
potentials of plants, factors affecting, 1035
potentials of plants, pollen tube growth affected by, 2725
seed treatment, 2079
Electricity, horticultural uses of, 2070, 2075
Electro-magnetic fields, use in breeding, 20
Electron microscope, applications of, 1655r, 3089g
Electrons, fast, plants irradiated with, 488
Eleocharis dulcis, 572
Eleocharis plantaginea, 666
Elettaria cardamom—see Cardamoms
Elm, air pollution damage, 2015, 2752
Elm, light responses, 1759
Elsinoë fawcetti, 751, 2790
Embryo—*see* Seed
Empoasca decedens, 783
Empoasca fabae, 470, 3794
Enarmonia pomonella—see Codling moth
Encyclopaedia of annuals and biennials, 1963
Endive—*see also* Chicory—
growth substance responses, 2034, 2477
nutrition, 1425
vernalization, 503, 2477
Endogone spp., unspecified, 2125
Endosperm—*see* Seed
Endothia parasitica—see Chestnut diseases, fungus
England—*see also under* Great Britain—and Wales, agric. Improvement Coun., Rep., 1979
Entomology, a book on, 4003
Environment, controlled—*see* Apparatus *and under specific factors, e.g.* Light, Temperature
Enzyme(s)—
activity—
of cell particles, 12, 13
changes during plant growth, 14, 2133
in cuttings, 14
determination, 1084i
diseases affect or affected by, 669f, 2536, 2556w, 2615j
dwarfing related to, 2025
in fruits and seeds, 597, 598, 2175
growth substances in relation to, 532, 2048, 3067, 3089r
in harvested leaves, 3988
inhibition of, 1018, 3067, 3069, 3080
light affects, 1084f, 3089r
nutrition of plants affects, 3089s
photosynthesis affected by, 2087x
in plants, general aspects—*see also* Tobacco *under* physiology—83, 532, 1586b, 2028, 2536
thermoperiodism affects, 1084f
amylase, 2175
catalase, 669f, 1650
decarboxylase, 66y
dehydrogenase, 2047, 2133
extraction from plants, 2024
flavokinase, 2026
Krebs cycle, 1623
oxidase, 83, 577o, 1022, 1691, 2025, 2128, 3067, 3089r, 3988
pectic, 951o, 2556w
phosphatase, 1586b
phosphorylase, 532, 1624
protease, 1655t
ribonuclease, 2615j
urease, 3899
Eosin, plant response to, 1055
Eotetranychus—see Tetranychus
Ephestia spp., and their control, 1712, 3922
Ephippiger spp., unspecified, 3690
Epicampoptera spp., unspecified, 3944
Epicoccum granulatum, 2828k
Epidermis, structural features, measurement, 67d

Epilobium angustifolium, 3352
Epinotia aceriana, 742e
Epinotia aporema, 1491
Epiphyte control on plants, 3913
Epitrix hirtipennis, 609
Eranthemum bicolor, 743g
Erica spp.—
diseases, 1706, 3796
growing in Switzerland, 2002
ornamental, 742w, 1987
pollen, antibiotics in, 2656
propagation by cuttings, 726
Eriococcus azaleae, 3322
Erioischia brassicae, 498, 576x, 3446-3448, 3451, 3531
Erioischia floralis, 1523
Eriophyes spp., unspecified, 1196
Erwinia—see also Bacterium—amylovora, 1281, 1282, 2271, 2272
Erwinia carotovora, 2427
Erysiphe—
cichoracearum, 1639, 2425, 2449, 2602
polygoni, 1473, 2449, 2557o
spp., unspecified, 1708
umbelliferarum, 2449
Eschscholtzia spp.—
flower drop, 3718
culture, 1782t
polyploidy, 3715
Escontria chiotilla, 1749
Essential oil(s)—*see also individual oil-bearing species—*
Agonis abnormis, 626
analysis, 630, 1701e, 2647-2649, 2671a, 2671b, 2671n, 2762n
chaulmoogra, 664
chenopodium, 2619
citronella, 627, 984
citrus, 838w, 3893f
content, determination, 669x, 3712c
content, factors affecting, 2628, 2743, 2758
coriander, 670f
distillation, 626, 2629
eucalyptus, 626
geranium (*Pelargonium* spp.), 2628
hop, 2647-2649
as insect repellents, 2654
juniper, 2629
laurel, 2758
lawang (*Cinnamomum* spp.), 1670
Leptospermum liversidgei, 2671t
Lippia turbinata, 630
marigold (*Tagetes patula*), 2654
Melaleuca spp., 2671t
Myoporum spp., 2636
patchouli (*Pogostemon heyneanus*), 1671
pepper, black, 1659
peppermint—*see under* Mint
plants and production in Commonwealth countries, 2626, 2671t
Psoralea corylifolia, 2624
reviews on, 3022
rose—*see* Rose
rue (*Ruta graveolens*), 625, 669c
Essential oil(s) (*continued*)—
sage, 1661
sandalwood (*Santalum* spp.), 2671b
vetiver, 3680
ylang-ylang (*Cananga odorata*), 670d
Ethiopia, crops, 951x, 2830
Ethylene—
compounds as fumigants—*see under* Fumigation, soil
disease development hastened by, 2538
emission by fruits, 1176, 1177, 1554, 3890
injury to plants, 2488
treatment for ripening fruits, 3471
Eucalyptus spp.—
essential oil from, 626
hardy, 733
propagation, 725, 2763c
for vine stakes, 2240o
Eucommia spp., gutta-percha in, 661, 1689
Eucosma nereidopa, 3945
Euetheola rugiceps, 611
Eugenia—see also Clove—*jambolana*, 3994
Eulia politana, 3678
Euonymus spp.—
light responses, 1702
oil from, 663
pests, 1711, 3722
seed germination, 743m
Euphorbia—
hermentiana, 2735
pulcherrima—see Poinsettia
spp., diseases, fungus, 2735
spp., as weeds and their control, 1403, 2345
splendens, 2734, 3816h
Euphorbiaceae, as oil-seed plants, 2660
Euptelea spp. in Poland, 742g
Euxoa ochrogaster, 2400
Evodia spp., in Poland, 742g
Exhibiting horticultural produce, a book on, 964
Exobasidium reticulatum, 2993w
Exobasidium vexans—see Tea diseases, fungus, blister blight
Experimental design—*see* Statistical
Experimental Husbandry, a new periodical, 1002
Exports—*see under* Trade

Fagraea fragrans, 2053
Fagus sylvatica, 27
Fairfield exp. Hort. Stat., work at, 66n
Fasciation in stocks, 695
Faustinus cubae, 3656
Feijoa—
growing in various countries, 1862n, 1961f
insecticide injuries, 2681
pomology, 2827j
Fennel nutrition, 628
Ferns—
air pollution, 1780
insecticide injuries, 2681
pests, 699
pricking out, tool for, 3816k

Feronia melanaria, 2305
Ferrisia virgata, 780, 1914, 1922
Fertilizer(s)—*see also* Nutrition *and separate crops under* nutrition—
application, in irrigation water, 3580
application, machinery for, 57, 218, 3134
bacterial, 2386, 2404, 3574
carriers, sawdust, 1062
fly-ash, 2388
formulations, granulated, organo-mineral, 1451
liquid, crop responses, 915, 916, 3135
organic wastes, 1061
placement for—
fruit crops, 218, 2155, 3134, 3135, 3189p, 3230
sugar cane, 916
tobacco, 57, 579, 3418
tung, 833
vegetables, 57, 457, 481, 3418
tree stump decay promoted by, 3340
Fibre(s)—
determination in sugar cane, 2995s
extraction, 633, 1676, 1701o, 3683
plants—*see also species of Abutilon, Agave, Asclepias, Bombax, Dasylirion, Furcraea, Hibiscus, Malachra, Musa, Spartium and Urena, and* Cardoon *and* Hemp—in various countries, 2637
production and trade, 3712e
Ficus—
carica—*see* Fig
palmata, 1003g
spp., composition, 1867
spp., as shade trees, 2864
Fidicina mannifera, 949
Fig—
a bibliography on, 1091
composition, fruit, 2240b
diseases, virus, 1271
drying, 2240b
fruit set and size, 1119
growing in Yugoslavia, 75
insecticide injuries, 2681
as a medicinal plant, 2624
nutrition, 1138, 2154
pests, insect, 3323
physiology, water relations, 1144
pruning, 1138
rootstocks, 1003g
soil requirements, 75
varieties, 1093, 2092
Fiji Dep. Agric., princ. agric. Stat., A.R., 1003d
Filbert—*see under* Cob nut
Finland, crops, 1187h, 1187m, 2255, 3195
Finland, horticulture in, 1085a, 1240f
Fish poisons from plants, 2671g
Flavonoids—*see under* Pigments
Flavonols in plants, 946
Flavour—*see also* Taste—in fruits, 2023
Flavour in vegetables, 2023
Flooding, plant responses to, 594, 1606, 2522, 3081
Flora of—
caves, 1007
Rhodesia, 1755
the Sudan, 954
Florida—*see also under* United States—agric. Exp. Stats, A.R., 989
Flower(s)—*see also individual flower crops, and other crops under* flower—
arrangement and display, 1782d
breeding, 2762a
bud initiation and development, 1024, 1028, 1113, 1551, 2132, 2135, 3129, 3566
colour—*see also below*, pigments—chemicals affect, 2698
colour descriptions, 1006
cut—
fumigation, 1712, 1717
packing, 997
prolonging life of, 1782d, 3718
diseases, 1706
drop, growth substances affect, 739, 2677, 3163, 3718
form, double, 2699
growing in Algeria, 2673
mutations, 743s
numeral patterns, 67a
pests, 1782w
physiology, respiration, 3802
pigments, 441, 1783g
research in Great Britain, 2000
research in Israel, 2765
seed germination, 743 l
sex, climate affects, 67k
sex, growth substances affect, 440, 1039, 1462, 1675, 2420, 3461
soil management, weed control, 1397
Flowering, growth substances to advance or delay—*see* Growth-substance
Flowering, secondary, in deciduous fruit trees, 1120
Fluorescence spectra of plants, 1085j
Fluorine, determination, 1084u, 3089q
Fluorine injury to plants, 1241, 1371v, 1566, 1730, 2013, 2014, 3034, 3035
Fly-ash (power-station waste), plant growth in, 2388
Foliar diagnosis—*see* Leaf analysis *and also individual plants under* composition *and* nutrition
Foliar nutrition—*see* Nutrition, foliar
Foliation, delayed—*see* Dormancy, prolonged
Fomes lignosus, 905, 1880, 1921
Fomes noxius (=*F. lamaoensis*), 1880, 1921, 2979
Food—*see also* Nutritional—Agric. Organ., Food, agric. Statist., Yearbook, 988, 4029f
Food Invest. Bd and Dir. Food Invest., D.S.I.R., A.R., 987
Forcing—*see also* Light *and* Photoperiodism—
fruit plants, 1199, 1959e
ornamentals—
annual and herbaceous plants, 997, 3750
bulbs, corms, etc., 997, 2720, 3763, 3816a

Forcing—ornamentals (*continued*)—
woody plants, 735, 2763f
vegetables, 1991
Forecasting crop yields, 1228, 1552
Forsythia—
forcing, 735
frost resistance, 734
growth, weather affects, 2751
pollination, 2756
propagation by cuttings, 2749
seed, neutron treatment, 2762e
species and varieties, 734
Fragaria ananassa×*F. moschata*, 2241i
Fragaria virginiana, 1020
Frames—*see also* Glasshouses *and* Soil heating—
a book on, 4029a
frost protection, 406
irrigation, 1085k
lights—
device for holding, 1080
Dutch, mobile structures, 2088t
glass for, 1078
mechanized culture, 1418
Frameworking fruit trees, 2002, 2341i
France, crops, 1612, 2827y, 3240t
Frankliniella tritici, 3784
Frankliniella vaccinii, 1371y
Fraxinus lanceolata, 263
Freesia—
breeding and selection, 3713
growing in Great Britain, 742q
mulching, 2702
Freezing, quick—*see* Storage, frozen-pack
French, West and Equatorial Africa, crops, oil palms, 2889, 2890, 2993 l, 2994w, 2994y, 2994z, 2995m
Frit, glass, a source of iron and other elements, 1533, 2831, 3074
Frost—
damage—*see also* Apple, Cherry, Citrus, Peach, Pear *and* Vine *under* climate, *and* Temperatures, low—
to deciduous fruits, 346i, 995, 1254, 2255, 2262, 3200, 3250
estimating the risk of spring, 1254
factors predisposing plants to, 2762c
to nuts, 3254
to ornamentals, 742c, 742k, 743c, 743r, 1753, 3816p
to pollen, 2129
research, equipment for, 2256, 2257
survey method, 346i
to tropical and subtropical crops, 823-825, 1862f, 2820, 2827m, 2872, 2994q, 3985
to vegetables, 2407
fungal diseases affected by, 1310
protection—
by earthing up trees, 1256
by fans, 995, 3255
by growth substance sprays, 3163
by irrigation—
to delay plant growth, 3258
furrow, 3257
Frost—protection—by irrigation (*continued*)—
sprinkler, 258, 406, 1258, 1259, 3011, 3256, 3259
by magnetic currents, 259
reviews on, 1257, 1258
by screens and windbreaks, 3032
by soil covering or cover crops, 256, 1256, 2165
by steam, 1418
by stem whitewashing or wrapping, 1256
resistance—
a book on, 972
climatic factors affecting, 1946
cultural and nutritional factors affecting, 1103, 1427, 2263, 2762c, 2767
growth substance treatments increase, 127
morphological and anatomical aspects, 3253
physiological and biochemical aspects, 479, 1821
statistical expression of, 2257
tests for, 101, 1011, 1094, 2103, 2259, 2262, 3190g, 3817
Fruit(s)—*see also individual fruits*—
Annual, The, 2001
composition—
and flavour, 2023
and food value, 66w, 3996 l
sampling for, 3554
consumption trends, 2089, 2182a
diseases—*see under* Diseases
dried, industry in Italy, 195
drop—*see also* Apple *and* Citrus *under* fruit—
anatomy and physiology of, 3848
in currants, 3240k
growth substances control—*see* Growth-substances
in pome and stone fruits, 1086, 1124, 1132, 1133
in tropical fruits, 1885, 2886
in vegetables, 523, 2441
in vines, 3222
flies—*see also separate species*—control by—
fumigation of fruits—*see under* Fumigation
insecticides and baits, 999, 1337, 1338, 2691, 3307, 3863
low temperature, 806
grafting, 3869
growing, books on—*see* Manuals
growth—
abnormal, 2087f
diurnal variations, 3820
measurement, 114
marketing—*see* Marketing
moth, oriental (*Cydia* (=*Grapholitha*=*Laspeyresia*) *molesta*), 330, 331, 2691, 3310
nutritional value of, 1154, 2088q
pests—*see also* Pests—
books on, 953, 1973, 3999, 4009
hemiptera-heteroptera, 2342g
in various countries, 1325, 3337x
preservation and processing, 2088r, 3009, 3190a

Fruit(s) (*continued*)—
propagation, vegetative, international control of, 3190f
quality, factors affecting, 982, 2328
research—
in Australia, 1087
in Belgium, 1187t
in Germany, 4016
in Great Britain, 1187b, 1187t
in Hawaii, 4017
in Holland, 1188, 4019
in India, 4020
in Italy, 1187t, 3189c
on locality factors, 2182w
in Poland, 69, 2182x
a review, 3022
in Rhodesia-Nyasaland, 4022
role of plant physiology in, 2087o
in Switzerland, 1187t, 2002
ripening, chemical changes associated with, 3190e
-seed relationship in pome fruit, 2131
set—*see under* Growth-substances *and* Pollination
storage—*see* Storage
temperature measurement, 2087 l
transport, 2086
tree(s)—*see also* Orchard—
capital value of, 1110
girth, measurement of, 113
grubbing, 157
as indicators of soil fertility, 74
lichens on, 3337s
microclimates, 2258
nurseries, diseases and pests of, 2242
nutrition, fertilizer placement, 3134
spacing, 181 l
tropical—*see* Tropical crops, fruit
varieties—
in Australia, 3100
collections in Italy, 3189c
for freezing, 2088r
new, lists of, 3101
nomenclature, 181g
water transfer to leaves from, 3820
Fuchsia physiology, 2676
Fulvia fulva, 2275
Fumigation—
of bulbs, 2763h
chambers, vacuum, 1656
of cuttings, 1712
of flowers, cut, 1712, 1717
of fruits, 319, 323, 1230, 1231, 1712, 1903, 3240b, 3240w, 3873, 3874
of glasshouses and glasshouse crops, 2710
plastic covers for, 788, 1066, 1071, 1950
protection of workers, 2335
of seeds, 3613
soil—*see also under* Nematode control *and* Soil sterilization—407
with allyl bromide, 2603
with chlorobromopropene, 554, 2603
with chloropicrin, 294, 308, 434, 554, 2718, 3285, 3337f
Fumigation—soil (*continued*)—
with D-D (dichloropropene-dichloropropane), 308, 407, 554, 1300, 1435, 2605
for destruction of woody plants—*see under* Trees and shrubs, destruction
with ethylene compounds, 307, 308, 407, 1300, 1640, 2569, 2605, 2912
with formaldehyde (formalin), 606
with fumigant mixtures, 2569
under growing crops, 2306, 2806
for insect pest control, 2306
interpreting results of, 702
methods and equipment for, 310, 1066, 1071, 1371j, 2605, 3089u
with methyl bromide, 46, 434, 585, 606, 710, 1066, 1300, 1378, 1394, 2569, 3285
plant responses to, 861, 1202, 1313, 1435, 2912
with sodium N-methyl dithiocarbamate (Vapam), 606, 702, 1644, 1732, 1795, 2603, 2716, 2770
soil fungi affected by, 1066, 1300, 2569, 2807
for virus control, 2268
for weed control, 46, 583-585, 710, 1378, 1394, 1411, 1595, 1644, 1742, 2396, 2569
of stores or stored products, 1656, 2334, 2763h, 3996i
of trees and plants—
with ethylene dibromide, 3724
with HCN, 788, 789, 1950, 3864
with methyl bromide, 713, 2710
tents for, 788, 1950
Fungi—*see also individual species, and plants under* diseases—
growth in flower styles, 1707
heat treatment against—*see* Heat
pest control by, 2313
saprophytic, antagonism to *Botrytis*, 2531
as test organisms for tumour study, 474
transmission by insects, 2422, 3914-3916, 3920, 3997c
transmission by water snails, 1534
Fungicide(s)—*see also* Antibiotics, Sprays, *and individual diseases and hosts*—
acaricidal action of, 318, 3861
-acaricide mixtures, 3782
additives, 877, 2277
aircraft application of, 1872, 3292
allyl alcohol, 1434, 2396
ammonia, gaseous, 1847
approved, lists of, 3337g, 3338e
aryloxy- and arylthio-alkanecarboxylic acids, 3604k
bacterial action, 2395
benzol, 1637, 1638
biological balance affected by, 3013
bordeaux mixture, 1359
boron compounds, 1848, 1849
cadmium compounds, 3771
captan, 2285, 2318, 2327, 2328, 2541, 3289, 3290, 3330, 3502
carbamates, 2426
chinonoxim-benzoylhydrazon (COBH), 1487

Fungicide(s) (*continued*)—
coal tar distillates, 904
copper—
injury to plants, 3274, 3331, 3594
oxinate, 2392
residues, 341
sulphate—*see also above*, bordeaux—447, 3331
synergistic action, 2823, 3780
cycloheximide, 2408
dichloronaphthoquinone and related compounds, 3290
dimethyl tetrahydrothiadiazine thione, 895, 3342
dinitrobenzenes, halogenated, 2717
dinitrorodanbenzol, 346a
diphenyl (biphenyl) compounds, 2828j
disease susceptibility increased by, 2532
dithiocarbamates, 1284
ferbam, 3335
flavour effects on crops, 1303, 1371c
fruit composition affected by, 175, 2336
fruit size affected by, 3273
-growth substance mixtures, 121, 558-560, 803, 1133, 3059, 3905
growth substances acting as, 466, 803, 3059
guanidine compounds, 2278
hail injuries healed by, 3330
insecticidal action of, 2327, 3506, 3861
-insecticide mixtures, 244, 780, 2318, 2993p, 3883
karathane, 1639, 2327, 2542, 3337k
lead arsenate, 2880, 3942
lime-sulphur, 3275
manam, 1298
mercurial, 1370, 1767, 1834, 2341a, 2550
mixtures, 447
nabam, 2342d, 2532
-nutrient mixtures, 877, 1225, 3229
oils and oil-based, 2993n, 3652
oxyquinoline sulphate, 3916
pentachloronitrobenzene (PCNB), 1284, 2879, 3721
pentachlorophenol derivatives, 347a, 3506
phenyl phenol (2-hydroxydiphenyl) (PACA), 1744
plants injured or otherwise affected by, 586, 1298, 1708, 1767, 1771, 2426, 2449, 2682, 2704, 3229, 3502
potassium permanganate, 300
pyridine compounds (Omadine, etc.), 2272, 2278, 2289, 2408, 3049
quaternary ammonium compounds, 2282
radioactive, 3868
residues, 1370, 2341a
reviews on, 3022, 3330
seed size affected by, 3330
sodium arsenite, 2294
sodium orthophenylphenate, 347j, 2282
soil treatment with, 1283
sulphur, 282, 2127, 3780, 3868
systemic, 2535, 3720
testing, 904, 942, 1059, 2287, 2342d, 2395
thiram, 561, 1284, 1298, 1358, 2392, 3335
Fungicide(s) (*continued*)—
thiuram compounds, 2278
toxicity to bees, 1356
toxicity to man and precautions in using, 2335
triazines, substituted, 1357
for tropical agriculture, 844
zineb, 447, 2326, 2327, 2329, 2330, 2542, 2543, 2683, 2684, 2735, 3289, 3291, 3861
ziram, 3290, 3335
Furcraea spp., as fibre plants, 3021
Fusaric acid, 2498, 3560
Fusarium—see also Damping-off—
annuum, 2551
conglutinans callistephi, 2275
culmorum, 1284, 2332, 3767
lateritium—see Gibberella baccata
moniliforme, 565, 2550, 2916
nivale, 3769, 3770
orthoceras, 2718, 3605m
oxysporum—
f. *albedinis*, 2813
f. *conglutinans*, 425, 426
f. *cubense*, 1961i, 2672j, 3900
f. *cumini*, 3667
f. *dianthi*, 684, 3815v
f. *gladioli*, 702, 1731, 1732, 2717, 2718
f. *lilii*, 3760
f. *lycopersici—see* Tomato, diseases, fungus, wilt
f. *melonis*, 3468
f. *psidii*, 1901
form unspecified, 565, 1910, 2328, 2550, 2909, 3499
roseum, 683, 2689
scirpi, 565, 2550
solani, 1284, 3499
spp., unspecified, 434, 1305, 1308, 1489, 1640, 1681, 1741, 2333, 2714, 2716, 3495, 3743, 3883
Fusicladium carpophilum, 1784
Fusicoccum amygdali, 288-290, 3283

Galinsoga ciliata, 1387
Galinsoga parviflora, 2374, 3378
Galium spp., control, 3407o
Gamma irradiation of fruits, 2283, 2809
Gamma irradiation of plants, 20, 488, 2557r, 3038
Ganoderma lucidum, 2995r
Ganoderma pseudoferreum, 1880, 1921
Garcinia livingstonei, 1755
Garden(s)—*see also* Botanic—
design, 1782v, 4029a
output of urban, 1
weed control in, 2364
Gardenia—
diseases, 1706
fungicide injury, 2682
nutrition, boron and salt tolerance, 3813
Gardening—
Annual, *Amateur*, 990
books on, 1966, 4005
Diary, *Amateur*, 4018
in the tropics and the sub-tropics, 4005

Garlic—
bulbs—
antibiotics and phytoncides in, 659
dehydration, 1186
storage, 1502
growing in Spain, 1501
nutrition, 3519
weed control, 2377
Geese, weeds controlled by, 3403, 3404
Geisenheim/Rheingau, work at, 1154, 4014, 4016
Gentiana lutea, 622, 2671f
Geotrichum sp. on mushroom, 476
Geotropic responses of plants, 1040, 2048, 3048
Geranium (*Geranium* and *Pelargonium* spp.)—
diseases—
bacterial, 3743
fungus, 3743
virus, 2695, 2696
growth substance responses, 2035
nutrition, 3742
oil, 2628
pests, 1711, 2679
physiology—
light responses, 1702
stomatal behaviour, 3039
tissue culture, 675
propagation by cuttings, 2675, 2683, 3742
species and varieties, 2763j
spray injury, 1710
Gerbera growing in New Zealand, 691
Germany—
Akad. LandwWiss., Berlin, Proc. Mtg, 982
crops, fruit, 85, 962, 2244
plant protection and quarantine, 3024b
Ghana, crops, vegetables, 2557n
Gherkin—*see under* Cucumber
Gibberella baccata, 2782
Gigantochloa spp., bamboos, 1673
Gimnandrosoma aurantianum, 998
Ginger (*Zingiber officinale*)—
nutrition, 1959w
planting, 1999
research in India, 4021
Ginkgo biloba, seed embryo culture, 742a
Girdling—*see* Ringing
Gladiolus—
air pollution, 1730, 3034, 3035
composition, plant, 3757
corm(s)—
disinfection—*see also below*, diseases—702, 2714, 2715, 2718, 2763s
dormancy breaking, 701
storage, 1782e, 1782f, 2715
treatment with colchicine, 700
treatment with parathion, 2719
diseases—
bacterial, 702, 1732
fungus—
corm-borne, 2333
corm rot (*Rhizopus arrhizus*), 1733
Curvularia spp., 1731, 1982, 2717
dry rot (*Stromatinia gladioli*), 1732
Gladiolus—diseases—fungus (*continued*)—
fusarium rots and yellows (*Fusarium* spp.), 702, 1731, 1732, 2714, 2717, 2718
leaf spot, neck rot and core rot (*Botrytis* spp.), 1731, 2714-2716
in the U.S.A., 1706
virus, 2762z
growing in various countries, 743q, 3020
growth, parathion improves, 2719
nutrition—
manuring, 1724, 2712, 2713
minor element, 3757
salt tolerance, 3757
pests, mite, root (*Rhizoglyphus rhizophagus*), 702, 1732
physiology, chlorophyll synthesis, 3035
physiology, light and temperature responses, 1729
planting in pots *vs* seed boxes, 1728
pollen germination, 1084j
soil management, fumigation, 702, 1732
soil management, weed control, 388, 1387, 2362, 3361, 3362
Glass—
frit—*see* Frit
substitutes, plastic—*see* Plastic
types for frames compared, 1078
Glasshouse(s)—*see also* Frames—
benches, collapsible, 2073
a book on, 4029k
climate—
air pollution, 1081
control, general, 50
temperature regulation, 67g, 2070, 2759, 3777
crops—*see also separate crops*—
in Great Britain, 1084v, 2087d
nutrition, 43
pest control, 3726, 3784
ring culture method, 534
design and construction, 49, 50, 67n
for gardens, 1085 l, 1085m
glass insertion, materials for, 1084a, 1084r
heating, 49, 66p, 66u, 67n, 1068, 1081, 1082, 1991, 2074, 2088h, 3090o
illumination, 67n
insulation, 52, 997, 1079, 2416
labour efficiency in, 2011
mobile, 51, 2069
soil—
management, irrigation—*see* Irrigation
management, weed control, 46
organic materials for, 2061
sterilization—*see* Soil
for tropical studies, 1866
ventilation, 66u, 67n, 2070
Gleditschia spp., seed treatment, 1057
Gliricidia sepium, 3914
Gloeodes pomigena, 281, 346c, 1371q
Gloeosporium—
albo-rubrum, 1920
album, 285, 1292
ampelophagum, 3294

Gloeosporium (*continued*)—
cyclaminis, 2275, 3755
fructigenum—*see Glomerella cingulata*
musarum, 852, 2282
olivarum, 1355, 3882, 3883
perennans, 285, 1293, 2341e
spp., unspecified, 1171, 2285, 2341x, 2342n, 3277-3279
Glomerella cingulata, 894, 1294, 1371g, 2286
Gloxinia—
flower colour, 2698
light and temperature responses, 2678
pests, 1726, 3725
Glucose culture of tobacco leaves, 614
Glucose, radioactive, 194, 3870
Glycyrrhiza spp., source of liquorice, 1701p, 2621
Gnorimoschema heliopa, 2606
Gomphocarpus fruticosus, 669i
Gooseberry—
× black currant hybrids, 2185
composition, fruit, 2192
composition, leaf, 2127
diseases, fungus, 1303, 3337k
diseases, virus, 267
flower, nectar secretion, 2190
nutrition, 3199, 3202
pests, mite (*Bryobia praetiosa*), 1322
propagation, 1103, 3198
pruning, 184, 2142, 2191
roots, origin and development, 3198
soil management, weed control, 357, 3352
spray injury, 2127
varieties, 2000
Gophers—*see under* Rodents
Grading—*see* Machines *and under* Packing
Graft(ing)—*see also* Budding *and* Framework-ing *and individual plants under* propaga-tion—
adventitious shoot formation encouraged by, 901
approach, 237, 594, 2537
cacti, 2762y
in the cotyledon phase, 3637
fruits, 3869
herbaceous scion on woody stock, 27, 2528
methods, general, 181j
plastic materials for, 2109
root, of rhododendron, 2763p
sex modification effects, 1039
solanaceous plants, 594, 1593, 2528, 2537, 2556t, 3636, 3637
tools and machines for, 3219
union, disease prevents, 2757
Grape—*see* Vine
Grapholitha molesta—*see* Fruit moth
Grass(es)—*see also individual species*—
for lawns—*see* Lawn
swards in orchards—*see* Cover crop plants
as weeds—*see* Weeds, control of particular types
Grasshoppers, control, 3690, 3978
Grasshoppers as virus vectors, 446
Great Britain—*see also* England *and* Scotland *for departmental reports*—
agricultural statistics, 1084v, 2008k, 3019
crops, fruits, small, 241q, 3240u, 4001
crops, fruits, tree and general, 1092, 1187b
glasshouse industry, 2087d
horticulture, economics, 1012
horticulture stations, experimental, 66m, 66n, 1085c, 1979, 2000, 4029 l
market gardening, 2381
marketing horticultural produce, 2083, 2084, 3086, 3089f
trees and shrubs, 1969
Grevillea robusta, 2864
Grevillea spp., propagation, 725
Growth—
diurnal variations, 3820
rate, light responses, 2434
rate, measurement, 64
rhythms or phases of plants, 1699, 1763, 2817, 2818, 3892f, 3908, 3983, 3984
Growth-substance(s)—*see also* Colchicine *and* Herbicides *and under individual crops*—
abscission and—*see also* Defoliation *and below* fruit drop—739, 2045, 2046, 3044
action, mode of, 1044, 2041, 2044
-antibiotic mixtures, 3059
apical dominance reduced by, 3729, 3737
approved, lists of, 3337g
a book on, 978
cell—
colloids affected by, 3407r
division affected by, 3051
size affected by, 3053
compounds—
adenine, 3057, 3538
adenosin, 2042
amino triazole, 385
anti-auxin, 3048
aromatic organic, 2044
aryl- and aryloxy-alkanecarboxylic acids, 3046
arylphthalamic acid, 3567
auxin, 129, 995, 1038, 1567, 3044, 3045, 3222, 3551, 3797
benzodioxole carboxylic acids, 2043
bile, 33, 1214
chelating agents, 32, 66s, 2044
chlorophenoxyacetic acid (PCA, POA, etc.), 3570
cis-cinnamic acid, 2049
cyanide, 3165
2,4-D, 923, 1043, 1444, 2038, 2040, 2677, 2942, 3407r
dichloral urea, 190, 1993
2,2-dichloropropionic acid, 3163
2,4-dinitrophenol (DNP), 3707
gibberellin and gibberellic acid, 31, 111, 1045-1047, 1084t, 1674, 2034-2037, 2476, 2477, 3050-3059, 3090m, 3568, 3569, 3717
indoleacetic acid (heteroauxin)—*see also above*, auxin—1037, 1038, 1055, 1655k, 2049, 2050, 2615 l, 3048, 3067, 3089r, 3479, 3647

Growth-substance(s)—compounds (*continued*)—
indolebutyric acid (IBA), 1422
isonicotinic hydrazide, 3610
isopropyl phenyl carbamate, 2138
kinetin (furfurylaminopurine), 22, 3538
maleic hydrazide, 36, 126, 190, 191, 487, 711, 924, 995, 1480, 1993, 2040, 2041, 3211, 3512-3515, 3605g, 3610, 3624, 3643, 3713, 3729, 3737, 3974
2-mercaptobenzimidazole, 3090e
naphthaleneacetamide, 183, 2631, 2677
naphthaleneacetic acid (NAA), 602, 897, 3156, 3461, 3605g, 3624
naphthoic acid, 2045, 2755
naphthoxyacetic acid, 529, 2677
naphthyl dimethylether, 3605g
naphthyl ethyloic acid, 207
naphthyl methylsulphide propionic acid (NMSP), 3048
naphthylphthalamic acid, 1040
phenoxyalkanecarboxylic acid, 1044
podophyllin, 1048
pyridinethione (2-pyridinethiol,1-oxide), 3049
quinoline carboxylic acid, 2755
ribonucleic acid, 2042
syngamin, 115
terpineol, 3974
thiopurinesuccinic acid, 3057
tolylphthalamic acid, 1551, 3163
trichlorophenoxyacetic acids, 1042, 2139, 2140, 2182f, 2534, 3161
triiodobenzoic acid (TIBA), 1042, 2045, 2420, 3461
for cuttings—*see* Cuttings, treatment
determination by various methods, 66a
disease incidence reduced by, 466, 3059
disease resistance affected by, 1569, 2534, 3592
enzyme activity in relation to, 532, 2048, 3067, 3089r
essential oil formation in plants affected by, 2631
extraction, 66a
flower—
bud induction affected by—*see also below*, photoperiodism—35, 897, 1551, 1960u, 3054, 3567
drop affected by, 739, 2677, 3163, 3718
sex expression affected by—*see* Flower thinning—*see below*, fruit and flower
flowering advanced by, 842, 1045, 1421, 1912, 2034, 2035, 3055, 3056, 3568
flowering delayed or inhibited by, 924, 2035, 3163, 3480
frost resistance affected by, 127
fruit—
colouring enhanced by, 125, 1999, 3159
composition affected by, 2507
development, role in, 3222
drop controlled by, 128, 1086, 1132, 1133, 2850, 3158, 3159, 3848
and flower thinning by, 1086, 1129, 1187c, 2138, 3154-3157, 3163, 3880
Growth-substance(s)—fruit (*continued*)—
ripening affected by—*see also* Citrus, storage life—120, 126, 885, 1086, 1134, 1557, 2140, 3158-3161, 3211, 3570, 3571
set induced by—*see also below*, parthenocarpy—183, 438, 2034, 2507, 2508, 2677, 3483, 3565, 3568
size affected by, 128, 885, 1999, 2139, 2507, 2508, 3160, 3161, 3211, 3483, 3565, 3570
fungicidal action of, 466, 803, 3059
-fungicide mixtures, 121, 558-560, 803, 1133, 3059, 3905
geotropic responses affected by, 1040, 2048
inhibiting—
action of, 2044, 2047, 3046
in ageing tissues, 3551
in plant extracts, 3165
in seeds—*see* Seed germination inhibitors
injury to plants—*see also* Herbicides—1132, 1133
-insecticide mixtures, 121
leaf movement affected by, 34
light affects, 1038, 3045, 3052, 3053' 3057
for marcotting—*see* Marcotting
nutrient sprays applied with, 1426
parthenocarpy induced by—*see also above*, fruit set—3056
and photoperiodism—*see also above*, flower bud induction—35, 2036, 2037, 3054, 3055
photosynthesis affected by, 36, 3058
pigment formation affected by, 67j
plant composition and nutrition affected by, 2038, 2040, 3047, 3639
in plant organs—
bark, 3165
buds, 3165
bulbs and tubers, 701
flowers, 3165
fruit, 1159, 3222
leaves, 1159, 2615 l, 3165
ovaries, 1655k
roots, 39, 3165
seeds and young seedlings—*see also* Seed germination inhibitors—37, 115, 182, 1474, 2052, 3108, 3480
shoots, 1038, 3797
styles, 1655k
various, 995, 3551
virus diseases affect, 1567, 1631, 3647
pollen responses to, 3992
radioactive, 3155
respiration affected by, 36, 3512, 3707
reviews on, 67m, 2088o, 3089a
root responses, 33, 1041, 1043, 2044, 3089a, 3479
runner formation in strawberries affected by —*see* Strawberry runners
seed—
formation in plants enhanced by, 2722
number in tree fruits affected by, 68
responses to—*see* Seed treatment
shoot suppression by—*see also* Tobacco suckers—3163

Growth-substance(s) (*continued*)—
storage life of vegetables prolonged by, 3513-3515
sucrose accumulation in sugar cane affected by—*see* Sugar-cane, sucrose content
tests, 29, 30, 1047
tissue differentiation affected by, 675
translocation, 1037, 1038, 3639
for virus control, 3493
vitamins applied with, 1422, 2772
Guatemala, agricultural markets, 3997a
Guava—
composition, fruit, ascorbic acid, 845
composition, fruit, enzymes, 951o
diseases, fungus, 951c, 1901
growing in various countries, 1961f, 2765
pests, fruit flies, 3897
propagation, vegetative, 671
research in Hawaii, 4017
varieties, 996
wild, control, 2358
Guayule, seed germination, 1690
Gums, plant, 1701f, 1701k, 3708
Gutta-percha, plant sources and extraction, 661, 669t, 1689
Gymnosporangium—
haraeanum, 1295
juniperi-virginianae, 2278
sabinae, 287
Gynura aurantiaca, 1711

Habrochila ghesquierei, 2881
Habrochila placida, 3944, 3945
Hail damage to plants, 2576, 3330
Hakea spp., propagation, 725
Hamamelis japonica, 663
Hardenbergia spp., propagation, 725
Hardiness—*see* Frost resistance
Harpalus rufipes, 2305
Harvesting—
bulbs and corms, machines for, 3090q
fruit—
bulk handling, 3189h, 3189o
economics, 2828n
machines for, 3172, 3189h
sugar cane—*see* Sugar-cane
tobacco—*see* Tobacco
vegetables, economics, 3456, 3604d
vegetables, machines for, 1584, 1585b, 2556q, 3090q
Hawaii(an)—
agric. Exp. Stat., Bienn. Rep., 4017
crops, fruits, 3893k
crops, sugar cane, 929, 3997g
Sugar Planters' Ass. Exp. Stat. Cttee, A.R., 1924
Haworthia attenuata, 1748
Hawthorn—*see Crataegus*
Hazel—*see under* Cob nut
Heat—*see also* Temperature—
injury to fruit, 3260
resistance, a review on, 972
Heat (*continued*)—
treatment—
apparatus for, 2948
of bulbs, 3762
against fungi, 1305, 1748, 1862u, 2457, 3520
against nematodes—*see* Nematode control
against viruses—*see* Virus control
Heating—*see* Electrical, Glasshouse *and* Soil
Hedera—*see* Ivy
Hedge(s)—*see also* Windbreaks—
plants—
Caragana arborescens, 3795
Prunus besseyi, 1774
temperate, collections of, 3789
in various countries, 1755, 3816r
trees in, competition with crops, 2623
Helianthus tuberosus—*see* Artichoke, Jerusalem
Helicotylenchus spp., unspecified, 3653
Heliopsis helianthoides var. *scabra*, 1687
Heliothis—
armigera, 2606
virescens, 3657
zea, 1582
Helix aperta, 3892x
Helleborus spp., water relations, 1030
Hellula undalis, 430
Helminthosporium heveae, 1989
Helminthosporium torulosum, 639, 2642
Helopeltis—
antonii, 984
bakeri, 2842
spp., unspecified, 860, 2994c
Hemerocallis spp., nectar secretion, 1782n
Hemerocampa vetusta, 2801
Hemicellulose biosynthesis, 180
Hemileia coffeicola and *H. vastatrix*, 2877
Hemitarsonemus latus, 1920
Hemlock (*Conium maculatum*) alkaloids, 669g
Hemp (*Cannabis sativa*)—
breeding and selection, 3681
flowers, sex expression, 1675
grafting, 28
growing in various countries, 632
growth substance responses, 1674
physiology, 67k, 2639
retting, 633, 1676
Hemp, Manila—*see* Manila hemp
Henbane—*see Hyoscyamus*
Herbicide(s)—*see also* Defoliation, Trees and shrubs destruction, Weed control *and individual weeds*—
absorption, translocation and metabolism, 353, 1372, 1375, 1402, 2039, 3343, 3344, 3407p
action, physiological, 1373, 3344, 3407s
application—
equipment for, decontamination, 3345
equipment for, types, 2354, 2380i, 2380k, 3407h, 3407j
as granules or pellets, 3355
low volume, 1375
compounds—*see also under* Growth-substance compounds—

Herbicide(s)—compounds (*continued*)—
allyl alcohol, 2569
3-amino-1,2,4-triazole (ATA), 390b, 2360, 3089b, 3370
arsenicals—*see also below*, sodium arsenite—353
CDAA, 1397, 2348, 3391, 3407q
CDEA, 1397, 2348
CDEC, 365, 2348, 3390, 3391, 3407q
chlorazin (2-chloro-4,6-bis (diethylamino)-s-triazine), 2348
chlorea (sodium chlorate+sodium metaborate+monuron), 355
(1-chloropropyl-2) N-(3-chlorophenyl) carbamate, 2348
CIPC, 375, 1376, 2375, 3355, 3358, 3361, 3384, 3385
cyanamide compounds, 2568, 3378
2,4-D, 353, 386, 466, 1372, 1374, 1400, 1402, 1407, 1413e, 2039, 2349, 2354, 2368, 2380 l, 3339, 3343-3345, 3370, 3407d, 3407f, 3407r
3,4-DA, 2348
dalapon, 349, 357, 367-370, 1390, 3370, 3399, 3407n
2,4-DB, 2348, 3339, 3394, 3395, 3407g
2,4-DES, 372, 3341, 3353, 3361
(2,4-dichloro-3-methyl phenoxy) propionic acid, 3407o
dimethyltetrahydrothiadiazine thione (Mylone), 3342
dinitro compounds other than dinoseb, 3400, 3407b
dinoseb (DNBP), 381, 1401, 3394, 3395, 3399, 3400, 3406
diuron, 388, 1391, 2363, 2379, 2380a, 3354
fenuron, 388
general, 3407 l
maleic hydrazide (MH), 1396, 2350
MCPA, 381, 3339, 3394, 3407f
MCPB, 1405, 2348, 2380b, 2380j, 3339, 3394, 3395, 3398, 3407g
MCPP, 3407o
mercurial, 363, 3371
methyl bromide and related compounds—*see under* Fumigation, soil
monuron, 353, 364-366, 382, 387, 388, 1373, 1391, 2351, 2352, 2361, 2368, 2370, 2379, 2380a, 3354, 3364, 3376, 3377, 3379, 3384, 3389, 3407p
neburon, 1397, 2348, 2365
octochloro cyclohexenone (OCH), 3361
oils, 1383, 1410, 2359, 2374
PCP, 2362, 2368, 3384, 3388
PDU, 366
propham (IPC), 382, 1376
simazine (2-chloro-4,6-bis-(ethylamino)-s-triazine), 2361
sodium arsenite, 354, 355
sodium chlorate, 353, 371
2,4,5-T, 353, 2356, 2358
2,4,5-TB, 3394
2,3,6-TBA, 2348
TCA, 366, 3392, 3393, 3399
Herbicide(s)—compounds (*continued*)—
2,4,5-TES, 3402
2,4,5-TP, 360
triazines—*see also above*, chlorazin *and* simazine—3407m
2-(2,4,5-trichlorophenoxy) ethyl-2,2-dichloropropionate (erbon), 1413i
tris(2,4-dichlorophenoxyethyl) phosphite (EH.3Y9), 389, 2348
urea compounds—*see also other urea compounds above*—3407a
cultivation *versus*, 1392
decomposition, persistence and movement in soil, 386, 1373, 2350, 3370, 3407q
effects—
on bees, 1413e
crop injury, chemicals to prevent, 2568
crop injury, general, 349, 350, 358, 366, 533, 1374, 1375, 1379, 1386, 1387, 1390, 1395, 1396, 1398, 1404, 1405, 1408-1410, 1412, 2351, 2352, 2361, 2368, 2373, 2379, 2380d, 2380 l, 3352, 3363, 3379, 3382, 3384, 3385, 3387, 3389, 3395, 3402
on dioecious plants, 2349
factors affecting, 2350, 3399
fungicidal, 466, 1434
harvesting of kok-saghyz aided by, 3699
weeds' susceptibility to, 1388, 1397, 2377, 3339, 3407g
evaluation methods, 3346
radioactive, 1372
reviews on, 384, 387, 390h, 1388, 1397, 1413c, 1413j, 2347, 3022
Herbs, culinary—*see also* Spices *and individual plants*—1585c, 2671i
Herbs, medicinal—*see* Medicinal plants
's-Hertogenbosch St. hort. adv. Serv., A.R., 4019
Heterodera—
cacti, 2733
glycines, 2763s
göttingiana, 1585o
marioni—*see under various species of Meloidogyne*
rostochiensis, 1726
Hevea—
clones—*see also below*, seedlings—950m, 1961b, 3953
composition—*see below*, latex, leaf *and* seed
cotyledons, regeneration in culture, 1917
diseases—
fungus—
gloeosporium leaf disease (*G. albo-rubrum*), 1920
mildew (*Oidium heveae*), 903, 1920, 2993c
mouldy rot (*Ceratostomella fimbriata*), 904
root rots (various spp.), 905, 1921, 3997o
general, 844
non-parasitic, of tapping panel, 1919
economics, 3956, 3996e

Hevea (*continued*)—
growing in the Far East, 2993m, 2993q
growing, mechanization of, 1961h
growth of adventitious shoots, 901
growth measurement, 1959 l
latex—
composition and properties, 902, 1959o, 2920, 3957
physiology, 2921
processing, 950h
yields, 2919
leaf composition, 902, 903, 2920, 2923, 3955
leaf fall, organisms causing, 1920
nutrition—
growth measurements as a guide to, 1959 l
leaf analysis as a guide to—*see above under* leaf composition
manuring and major elements, 3955, 3996s, 4004
minor elements, 893, 2922, 2923, 3955, 3997k, 4004
pests—
mealy bugs (*Ferrisia virgata*), 1922
mite, yellow (*Hemitarsonemus latus*), 1920
scales (various genera), 1922
thrips (*Scirtothrips dorsalis*), 1920
physiology, glasshouse for studies on, 1866
planting, spacing, 2918, 2919, 3997s
propagation—*see also below*, seed—by cuttings, 901
propagation, nurseries, 1918
research in—
Ceylon, 900, 984
Indo-China, 2917, 3996e
Indonesia, 1989, 3996a
rootstocks, 950m
seed—
composition, 1923
embryo culture, 1917
gardens, 3954
seedlings, clonal, 3997r
soil management, weed control, 366, 1390, 3366
species, evolution, 899
tapping systems, 1919, 1961c, 2919, 3956, 3997s
tree poisoning and grubbing, 905
tree thinning, selective—*see above under* planting, spacing
varieties—*see above*, clones, seedlings *and* species
Hibiscus—
esculentus—*see* Okra
spp., ornamental—
flower drop, 3718
hybridization, 3798
propagation, 671
tetraphyllus, fibre from, 2637
Hican, nut germination, 2225
Hickory—
nut germination, 2225
propagation, 2231
rootstocks, 2231, 2240z
Hieroglyphus nigrorepletus, 3978
Highway—*see* Road
Hillsborough agric. Res. Inst., N. Ireland, A.R., 2008a
Hippeastrum nutrition, 1734
Hippeastrum as pollinator of lily, 2722
Hippophaë rhamnoides, 1701h, 2667
Holarrhena febrifuga, 1755
Holland—
crops—
herbs, medicinal and culinary, 1585c, 2671i
nuts, 240
vegetables, 1585c, 2430, 3409
horticultural—
engineering, 1991, 1992
guides, 1987
Res., Minist. Agric., A.R., 986
seed production, 1084o
Plant Path. Serv., 3024e
Holly—
nutrition, 997
packing and marketing, 997
pests, 2686, 3722
propagation by cuttings, 726
rubber formation in, 669h
varieties and selection, 3815n
Hollyhock, origin, 3815 l
Homona coffearia, 943
Homoptera, a book on, 2996
Honey—*see* Nectar
Hop(s)—
antibiotics from, 3697
breeding and selection, 645
composition, cone, 645, 646, 651, 654, 670 l, 1682, 1685, 2646-2648, 2650, 3696
composition, plant, 652, 654, 1682
cone chemistry—*see also above*, composition—1684, 1701 l, 2647-2650, 2652, 3694, 3695, 3712j, 3712k
diseases—
bacterial, crown gall, 1681
a book on, 3999
fungus—
black butt (*Fusarium* spp.), 1681
black root-rot (*Phytophthora* sp.), 650, 1683
wilt (*Verticillium albo-atrum*), 1681, 2644
virus, 1681, 1682
drying, 670p, 2652
flowers—*see also above*, cone—male, resin glands of, 645
growing in various countries, 1998, 3691
growth, systemic insecticides stimulate, 656
leaf, resin glands, 646
morphology, 1677
nutrition—
absorption of nutrients, 652
manuring and major elements, 650
minor elements, 651, 1680, 2645
pests, insects, 655, 1363, 2342g, 2651
pests, mites, 656, 3693
picking, 653, 654
planting, spacing, 648

Hop(s) (*continued*)—
planting, time of, 1679
pollination, 1677
research in Great Britain, 643, 3712w, 4029p
research in New Zealand, 995, 1983, 2643
seed content of cone, 647
soil management, grass swards, 649
spray residues, 3336
taxonomy, 1677
training, 648
varieties, 644, 1678, 2644, 2648-2650, 3692
Hoplolaimus uniformis, 1435
Hormones—*see* Growth-substances
Horse-radish pests, 1523
Horse-radish, phytoncides from, 659
Horticultural—
Congress, int., Scheveningen, Rep., 3001
education at botanic gardens, 3089d
education in various countries, 1965, 3025, 3089k
engineering in Holland, 1991, 1992
products, marketing, 1068, 3086, 3089f
research in Holland, 986
Horticulture in various countries—*see under separate countries*
Hotbeds—*see under* Frames
Houma Sugarcane Field Stat., La, work at, 2924
House plants—
a book on, 2008c
containers and pots for, 1704
culture, 3714
La Hulpe, Stat. provinc. Rech. sci. Vitic., A.R., 1204
Humidifiers—*see also under* Mist—
for controlled environment rooms, etc., 2153, 3085
for glasshouses, 1075
for propagation—*see also* Cuttings, mist humidification—60, 671, 1068, 1075, 2077, 3089e
Hungary, crops, 73, 196, 516, 632, 2560
Hyacinth—*see also under* Bulbs—
flower spike shedding, 703
forcing, 2720
nutrition, 1724
Hyalopterus arundinis, 1363
Hybrid vigour in various plants, 2564, 2763d, 3606
Hybrid vigour in vegetables—*see also* Tomato—509, 3604o
Hybridization, vegetative, 28, 210, 692, 729, 1593, 2196, 2494, 2495, 2503, 2556t, 3114
Hydnocarpus spp., essential oil plants, 664
Hydrangea—
defoliation, chemical, 3799
diseases, virus, 738, 2762d
flower colour, 736, 737
flower pigments, 3800
forcing, 25, 2763f
growing in Switzerland, 2002
growth substance responses, 3717
nutrition, 25, 736, 737, 1703
physiology, light responses, 25
propagation by cuttings, 2675
Hydrocyanic acid fumigation—*see also* Fumigation of trees—of bulb stores, 2763h
Hydrocyanic acid fumigation, nutrient effect of, 789
Hydroecia micacea, 2651
Hylemyia—
antiqua—*see* Onion pests, flies (*Delia antiqua*)
brassicae—*see Erioischia*
cilicrura—*see Delia*
Hylesinus oleiperda, 3885
Hyoscyamus spp. (mainly *H. niger*, vars. *annuus* and *biennis*)—growth substance responses, 1045, 3051
Hyoscyamus spp., light responses, 24, 3090k
Hypericum perforatum—*see* St. John's wort
Hyphantria cunea, 2317, 3314
Hyponomeuta—*see Yponomeuta*
Hypoxylon asarcodes, 2979
Hysteroneura setariae, 927

Icerya purchasi, 1352, 1862x
Icerya spp., unspecified, 1712
Idiocerus clypealis, 984
Ilex—*see also* Holly—*paraguariensis* (yerba maté), 949, 951p
Impatiens marianae, 1042
Imperata cylindrica, 366, 1390, 1413d, 3366
Imperial College of Tropical Agriculture, Trinidad, A.R., 4029h
Inarching, graft—*see* Grafting, approach
Incompatibility—*see* Rootstocks *and separate crops under* pollination *and* rootstocks
India—*see also individual states for reports*—
crops—*see also* Sugar-cane *and* Tobacco *under* growing—
plantation, 952e, 1959p, 1959t, 1959x, 2994i
various, 623, 629, 1692
vegetables, 1585y
marketing horticultural products, 2087s
weeds, 2343
Indian—
Coffee Bd, A.R., 1888
Coun. agric. Res., A.R., 4020
Tea Ass., Tocklai, A.R., 2962
Indo-China, crops, 2993q
Indonesia—
agriculture, 3996z
C.P.V. Exp. Stats, A.R., 1989
crops, plantation, 868, 1960c, 2993m
Infrared radiation—*see under* Light
Inga spp., as shade trees, 1867
Insect—*see also* Pests—repellents, essential oils as, 2654
Insecticidal plants—*see also* Pyrethrum *and species of Acorus, Heliopsis and Lonchocarpus*—chemistry of their products, 1686
Insecticide(s)—*see also* Acaricides *and* Sprays *and individual pests and hosts*—
-acaricide mixtures, 2799
action, general aspects, 4023

Insecticide(s) (*continued*)—
additives, 1506
aerosols, 2340
aldrin, 1330, 1585k, 2462, 2463, 3521
approved, lists of, 3337g, 3338e
BHC—
absorption and translocation, 2455
application methods, 431
flavour effects on crops, 1438
plant growth and injury responses, 569, 587, 3654, 3658
pure gamma isomer—*see below*, lindane
residues and persistence in soil, 411, 1438
biological balance affected by, 1361, 3013
biological control to supplement, 2492
chlordane, 3654
as cholinesterase inhibitors, 1655h
cyanamide, 1437
DDD, 3603
DDT—
formulations, 2339
insects develop resistance to, 2312
mites encouraged by, 325, 2339
mixtures with other insecticides, 2691, 2823, 2881
plant growth and injury responses to, 587
residues on crops and their analysis, 3603
demeton, 339, 343, 346z, 432, 1437
derris, 472
dieldrin, 1345, 1506, 2462, 2463, 3521, 3530, 3773
0,0-diethyl S-ethylthiomethyl phosphorodithioate (Thimet), 2397
0,0-dimethyldithiophosphorylacetic acid derivatives, 838z, 3305
0,0-dimethyl S-(methylcarbamyl)methyl phosphorodithioate, 3886
0,0-dimethyl 0-2,4,5-trichlorophenyl phosphorothioate, 1366
dimethyltetrahydrothiadiazine thione (Mylone), 3342
endrin, 328, 1345, 3530
ethyl-*p*-nitrophenyl benzenethiophosphonate (EPN), 326
flavour effects on crops—*see also above*, BHC, *and below*, lindane—346b, 1360, 1371c, 3423
fluorine compounds, 779
fruit composition affected by, 2336
with fungicidal action, 2880, 3942
-fungicide mixtures—*see* Fungicides
fungicides as, 2327
-growth substance mixtures, 121
heptachlor, 1506
1,2,3,4,7,7-hexachlorbicyclo - [2,2,1] - hepten-5,6-bisoxymethylenesulphite (Thiodan), 1364
lindane (gamma-BHC)—*see also above*, BHC—
absorption and translocation by plants, 2455
application methods, 1939
flavour effects on crops, 1438
Insecticide(s)—lindane (*continued*)—
plant growth and injury responses, 569, 586, 1440, 2393, 3521, 3530, 3654
residues on crops and in soils, 411, 1438, 3020
malathion, 417, 1761, 2342e
methyl bromide, 1656
1-naphthyl N-methylcarbamate (Sevin), 3334
oils, 794, 795, 838m, 1365, 1841, 1863i, 3865-3867
parathion—
absorption and translocation, 1772, 3422
mixtures with other insecticides, 1365, 2691, 2823, 3862
plant growth and injury responses, 793, 794, 1769, 1863i, 2454, 2681, 2719
residues on crops and their analysis, 331, 838r, 839c, 1585v, 1951, 2823, 2827u
toxicity to man and precautions in using, 838a
Phoracide, 1496
plant growth and injury responses—*see also above*, BHC, DDT, lindane *and* parathion—346q, 346z, 411, 432, 944, 1469, 1506, 1643, 1769, 2681, 2704, 3047, 3470, 3530, 3654, 3773
plant sources of—*see* Insecticidal
pyrethrins-piperonyl butoxide, 2856
radioactive, 3892z
residues, general aspects and reviews, 346z, 1360
reviews on, 3022
schradan, 339, 344, 432, 1437, 3301
seed treatment with—*see* Seed
sodium cyanide, 2556f
systemic—*see also* Acaricides *and* Nematode control *and individual insecticides*—1363, 1568, 1711, 1727, 2303, 2337, 2397 2679, 2711, 2762k, 3333, 3965
tests, 1363
toxaphene, 3654
toxicity to bees, 1362, 1455
toxicity to man and precautions in using—*see also above*, parathion—346q, 1371p, 2335
trialkyl thiophosphate, 1363
for tropical agriculture, 844
Institut(e)(s)—*see also place names*—
agric. Engng, nat., work at, 66r
Encouragement Rech. sci. Ind. Agric. (I.R.S.I.A.) Brussels, Rep., 992, 4029i
nat. Étude agron. Congo belge (I.N.E.A.C.), A.R., 1990
Rech. Huiles Oléag. (I.R.H.O.), Paris, A.R., 3017
International hort. Congr., Scheveningen, Rep., 3001
Interstocks—*see also* Apple *and* Pear—
bark rings, normal or inverted, as, 95, 96
for nut trees, 2231
for stone fruits, 2118
Iodine—
content of cacao butter, 3021
nutrition of vegetables, 2406
radioactive, 3062

Ion absorption, mechanics of, 2033
Iowa Div. Agric. St. Coll., A.R., 1993
Ipomoea caerulea, 1782x
Ipomoea palmata, 3712d
Ireland, Republic of, Minist. Agric., A.R., 3024f
Iridomyrmex humilis, 320, 321
Iridomyrmex myrmecodiae, 1885
Iris—*see also under* Bulbs—
bulb curing, disinfection and storage, 997, 2702, 2762s, 3758
diseases, 1735
forcing, 2721, 2762s, 3758
fruit formation, growth substances induce, 2677
pests, insects, 3759
physiology, light requirements, 2721
soil management, weed control, 388
species and varieties, 1735
Iron—
application, foliar, 3133, 3242
application by injection, 2243, 2246
content of plants, factors affecting, 1539, 3245
deficiency, a review on, 2088p
determination, 3060
immobilization in plants, 143
nutrition of—
fruit and plantation crops, evergreen—*see also* Citrus nutrition—1791, 2831, 2870, 3937, 3990
fruit trees, deciduous—*see also* Apple *and* Pear *under* nutrition—143, 247, 2243, 2246
ornamentals, 3792
plants, general, 4004
tobacco, 1617, 1632
vegetables, 1484, 2480, 3490
radioactive, 3062, 3133
sources, chelates, 346v, 459, 1246, 1484, 1791, 1817, 2243, 3242, 3244, 3490, 3792, 3841-3844
sources, sulphates, 3844
toxicity, 45
uptake and metabolism, interrelationships with other elements, 511, 2480, 3133, 3811
Irradiation—*see under* Gamma, Light, Radiation, Ultrasonic *and* X-ray
Irrigation—*see also* Soil moisture *and* Water—
aphid incidence affected by, 1429
a bibliography on, 2088c
canals, plastic liners for, 1071
canals, weed control in—*see also* Weed control, of particular types, aquatic—356
of crops—*see also individual crops under* soil management—
fruit and nut trees, deciduous—*see also* Peach—2158, 3011, 3147
fruit and plantation, evergreen—*see also* Citrus, Coffee, Olive *and* Sugar-cane—1869, 2994b, 3819
ornamentals, 2067
small fruits—*see also* Vine—1067, 2199
tobacco—*see* Tobacco
Irrigation—of crops (*continued*)—
vegetables—*see also* Beans (*Phaseolus*) *and* Tomato—397, 1067, 1429, 1430, 2065, 2390, 2439, 3605k
disease incidence and resistance in relation to, 1633
economics, 1067, 1084g
equipment and structures—*see also below*, methods—
general, 66t, 3089h
pipes and siphons, 59, 66q, 1072
pumps and accessories, 66o
soil sampling auger, 3235
for sprinklers, 3011
experiments, design of, 3932
fertilizer application with, 3580
for frost protection—*see under* Frost protection
glasshouse and frame, 49, 1075, 1085k, 2068, 2075
methods—*see also above*, crops *and* equipment—
basin, 3933
general, 66i, 2064
mist—*see* Humidifiers
sprinkler, 66k, 550, 1067, 1084d, 1084g, 1084m, 1085k, 1368, 1418, 1862o, 1869, 2088f, 2342i, 2934, 3011, 3082, 3089 l, 3933
trickle, 3580
needs, determination of, 768, 1073, 1431, 2064, 2065, 2995d, 2995 l, 3614, 3830, 3892b
nematode infestation affected by, 3601
research in California, 2067
a review on, 3082
and salinity problems, 3819
water—
from a colliery, 1430
composition, 1430, 1862o, 2828e, 3812
general, 3011
Isaria fumosorosea, 3311
Isariopsis griseola, 464
Ischaemum muticum, 1390
Israel—
agriculture, 2764
crops, 1865, 3892a
horticultural research, 2764, 2765
Italy—
crops—
fruit—*see also* Vine—77, 181o, 195, 1261, 1862z, 2182o, 2183j, 3103, 3892m
nuts, 195, 1261, 2241b, 3240s, 3240t
ornamentals, 743r
various, 617e, 1662, 2458, 2459, 2616
horticultural research, 3189c
medicinal plants, 1701p
plant protection service, 346u
Ivory, vegetable, 2670
Ivy—
growth, juvenile phase, 3797
pests, 1711, 3725
propagation by cuttings, 3797
spray injury, 1710
varieties, 1782j, 1782z

Jaboticaba (*Myrciaria jaboticaba*), 1786
Jackfruit (*Artocarpus* spp.)—
  growing in Assam, 2993t
  rootstocks, 4021
  seed germination, 3993
Jamaica, crops, 744, 1887
Japan, crops, vines, 3240f
Jasmine pests, 1769
Jasmine propagation, vegetative, 671
Java—*see under* Indonesia
John Innes hort. Instn, work at, 2009, 3018
Juglandaceae, pollination, 2240y
Juncus spp., control, 3407f
Juniperus spp.—
  diseases, 2757
  essential oil from, 2629
  hosts of pear rust, 287
  light responses, 1702
  pests, 3801
  storage of plants, 727
Juvenility in plants, 27, 105, 106, 901, 1789, 2123, 3090f, 3797, 3823

Kakivoria flavofasciata, 1784
Kalanchoë spp. (mainly *K. blossfeldiana*)—
  growth substance responses, 3717
  pests, 1711
  physiology—
    photoperiodic responses, 24, 714, 3774
    of succulence, 3774
    temperature responses, 714
Kale—
  diseases, 408
  growth substance responses, 2034
  pests, 1454
  seed production, 1454
  weed control, 3390
Kalmia angustifolia, 358
Kalmia latifolia, 1761
Kansas agric. Exp. Stat., bien. Rep., 4029j
Kapok trees, killing with herbicides, 2357
Kapok utilization, 2672e
Kennedya spp., propagation, 725
Kenya, crops, 669 l, 952d, 1890, 3712o
Kigelia pinnata, 1770
Kniphofia spp., nectar secretion, 1782n
Kohl-rabi nutrition, 3529
Kohl-rabi seed treatment, 1422
Kok-saghyz—
  biotypes, 2671r
  breeding and selection, 3699, 3700
  harvesting, removal of tops, 3699
  latex chemistry and processing, 3699, 3703
  latex formation and yield, 1701q, 3699, 3703
  leaf shape, rubber yield correlated with, 3699
  nutrition, 3703
  physiology, metabolism, 1691
  propagation, vegetative, 3699
  root storage, 1691
  seed sowing, 3702
  seed treatment, 3701
  soil management, weed control, 3406
Kola—*see Cola*
Kornik, Inst. Dendrol. Pomol., Poland, 66e
Kotochalia junodi, 3712q
Kvithamar Veg. Res. Stat., Norway, work at, 577b

Labelling, machine for, 1084c
Labour—
  efficiency—*see also* Economics—in horticulture, 4, 71, 420, 2011, 2087i, 2182j, 2763k, 3090v, 3564
  efficiency in tropical agriculture, 3956
  energy requirements, 570
  requirements for tropical crops, 2994v
Lactuca scariola, 2037
Lalang grass—*see Imperata*
Lamium amplexicaule, 1394, 3357, 3359
Landwirtschaftliches Zentralblatt, a new periodical, 2005
Lansium domesticum, 3995
Lantana spp., control, 1413h
Laphygma exempta, 1324, 1352
Lasioderma serricorne, 2615w, 3922
Laspeyresia leguminis, 1491
Lathyrus—*see also* Sweet Pea—*pratensis*, pollen germination, 1713
Laurel, light responses, 2758
Lausanne Stats féd. Essais agric., A.R., 1994
Lavender pests, 3678, 3712t
Lawns and sports turf—
  construction or re-establishment, 1742, 3765, 3815z
  diseases, 742y, 742z, 743i, 1744, 1782o, 3767-3773
  grasses—*see also Zoysia*—
    annual meadow grass (*Poa annua*), 3815s
    Bermuda grass (*Cynodon dactylon*), 3765
    seed treatment, 3767, 3768
    in the tropics, 3765
    in the U.S.A., 3766, 3815t
  growth, maleic hydrazide retards, 711
  management—
    machinery for, 3815c, 3816g
    maintenance, 3765, 3815t, 3815z, 3816m
    mulching, 3079
    nutrition, 1743, 3766
    weed control, 360, 361, 363, 390d, 390f, 710, 1393-1396, 1742, 1993, 2347, 2365, 2366, 3020, 3371-3375, 3407i
    weed control on adjoining land, 2364
  moss in, assessment of, 362
  pests—
    armyworm (*Spodoptera mauritia*), 2732
    general, 742y, 1783f, 2762m
    hunting billbug (*Calendra venatus*), 2731
    nematodes, 2685, 2763m, 3773
  soil reaction, 1743
Layering—*see also* Marcotting—
  Cotinus sp., 732
  cucumbers, 3463
  pome and stone fruits, 1103
  rhododendrons, 2763p

Leaf(ves)—
abscission—*see also* Defoliation *and* Petiole —739, 2045, 2046, 2330, 3044
ageing, 3642
analysis—
experimental design in relation to, 3832
figures, interpretation of, 891, 892, 2183i, 2868, 3164, 3815h, 3896, 3997f
figures, variations due to various factors, 136, 138, 908, 2217
methods, 67e, 1960g, 1960v, 2021, 2868, 2920, 3060
preparing leaves for, 8, 9, 3060
sampling for, 592, 2827c, 2868, 3089v, 3164, 3966
and shoot analysis compared, 3967
area, estimation, 2082, 2087w, 3004, 3125
area, rooting of cuttings affected by, 2675
colouring, autumn, chlorophyll content in relation to, 2753
cuttings—*see* Cuttings
development, a symposium on, 3004
epidermis, penetration by cobalt, 3064
exudates, antibiotics in, 2657
injection, 3844
movement in mimosa, 34
nutrient absorption by—*see under* Nutrition, foliar
nutrient excretion or leaching, 3090p
sap, pH values of, 2127, 3811
scorch estimation, 2325, 3331
shape, factors affecting, 1782x, 2489
surfaces, electron microscopy of, 3089g
water absorption by, 3907
Leafhoppers—*see also separate species under scientific names*—as virus vectors, 269, 1530
Lecanium spp. on walnuts, 337, 2320
Leek—
diseases, fungus, 2461
root system, 2383
weed control, 1406, 3388
Lehmannia marginata, 743n
Lemaireocereus dumortieri, 1749
Lemon—*see under* Citrus
Lemon grass—*see Cymbopogon*
Lentil seed composition, 3604q
Lepidiota frenchi, 1939
Lepidium sativum, 1054
Lepidogma sp., on *Eugenia*, 3994
Lepidosaphes—
beckii, 1836
cocculi, 1922
ficus, 3323
Leptospermum spp., as essential oil plants, 2671t
Leptothyrium pomi, 346c
Lettuce—
bolting, 502, 1047
climate, air pollution damage, 2329
composition, leaf, 500, 501, 1526, 2389
diseases—
bacterial, slime rot (*Pseudomonas* sp.), 3539
Lettuce—diseases (*continued*)—
fungus—
downy mildew (*Bremia lactucae*), 3541
grey mould (*Botrytis cinerea*), 2332, 2483, 3720
Marssonina panattoniana, 2329
Sclerotinia minor, 2484, 2485, 3539
various, 2275, 2394, 3539
market, 3545
non-parasitic, 504-506, 1528, 2482, 2488, 3544
virus, 1529, 1530, 3420, 3540
economics, 1531
field experiments, design, 3090c
growing—
in Great Britain, 1524, 2556p
under plastic, 2385
ring culture, 2556b
in the U.S.A., 1415, 1585z, 3536
growth substance responses, 22, 1047, 1426, 2034, 2042, 3056
marketing, 3545
nutrition—
foliar, 1426
manuring and major elements, 504, 1424, 1516, 1528, 2479, 2481, 3020, 3604t
minor elements, 404, 405, 2406, 2480, 2482, 3417, 3419
packing costs, 1531
pests, insects, 507, 1530, 1585w, 3542, 3543
physiology—
light responses, 501, 502, 2478
temperature responses, 502, 2478
water relations, 505, 2481, 2497
quality, 2382
root system, 2383
seed—
certification, 3604 l
germination, biochemistry, 37
germination, factors affecting, 22, 62, 1527, 2466, 2475, 2476, 3537, 3538
production, 2034, 2479, 3535, 3604 l
treatments, various, 1527, 2036, 2476, 3420, 3537
treatments, vernalization, 502, 997
soil—
atmosphere requirements, 62
management—
irrigation, 2065
mulching, 3539
weed control, 3387, 3388
storage and transport—*see also above*, packing—506, 2486-2488, 3544
varieties in North Africa, 391
varieties in temperate countries, 1525, 2000
Leucaena glauca, 846
Leucinodes orbonalis, 1583
Leucoptera (*Cemiostoma*) *scitella*, 3316, 3317
Leucoptera spp., on coffee, 3945
Leveillula taurica, 2449
Levuana sp. on coconuts, 1352
Lichens control, 1371b, 3337s, 3913
Lichens as food plants, 2669

Light—*see also* Photoperiodism—
artificial—*see also* Forcing *and* Glasshouse illumination—
continuous during vernalization, 3550
in controlled environment chambers, 1033
horticultural uses, a review on, 3090 l
for plants and their responses—
fruit trees, deciduous, 89
ornamentals, 25, 674, 997, 2676, 3749, 3750, 3758
vegetables, 25, 399, 400, 442, 525, 527, 1419, 2416, 2434, 2460, 2500
sources of, 399, 400, 442, 1419, 2078
coloured—*see also below*, infrared *and* ultraviolet—
for fruit colouring, 3170
growth substance activity affected by, 3052, 3053, 3407d
plant responses to, 402, 501, 1702, 2029, 2031, 2046, 2676, 2678, 2729, 3036, 3090j, 3090k
seed germination affected by, 1548
infrared and far-red, plant responses, 2046, 3036, 3089r, 3733
intensity—*see also* Shade—
measurement, 2081, 3090r
plant responses—
ornamentals, 24, 993, 997, 1027, 1729, 1766, 2676, 2678, 2721, 2758, 3066, 3734
temperate fruits, 2027
tobacco, 1600, 1601, 3635
tropical and subtropical tree crops, 938
various crops, 24, 1027, 2758, 3041
vegetables, 21, 401, 501, 525, 527, 1027, 1478, 1561, 2413, 3041, 3066, 3478
ultraviolet—
auxin responses prevented by, 3045
diseases, fungus, controlled by, 2983
diseases, virus, inactivated by, 617t, 3649
plant responses, 2046
seed treatment with, 3701
Lightning damage to crops, 1036
Lignification, factors affecting, 2027
Lignin, biosynthesis, 2615k
Ligustrum spp., pests, 1761
Ligustrum spp., propagation, 726
Lilac—*see also Syringa*—
composition, 1025
growth substance responses, 2036
nutrition, 1703
physiology, photoperiodic responses, 1025
physiology, translocation, 1353
varieties, 742h
Liliaceae, nitrogen compounds in, 2723, 2730, 3764
Lilium—
candidum, 2724
formosanum, 2762f
regale, 2722
Lily—*see also under* Bulbs—
arum—*see under Zantedeschia*
breeding and hybridization, 1736, 2722, 3816s
Lily (*continued*)—
bulb—
disinfection and heat treatments, 3760
size, growth affected by, 1737
storage, 1782e
diseases, 743b, 1706, 3760
growing, a book on, 2008b
pollen development and germination, 1084j, 2724
pollination, 2722
potting composts, 705
propagation from scales, 3760
seed—
embryogeny, 2762f
germination, 705, 3018
treatment, 705
Yearbook, *R.H.S.*, 704
Lily-of-the-valley—
colchicine treatment, 1738
fruit formation, growth substances induce, 2677
nutrition, 706
pests, nematodes, pip disinfection against, 1739
soil management, 706
water relations, 1030
Lime (*Citrus*)—*see under* Citrus
Lime (*Tilia*), air pollution damage, 2015
Liming—*see also* Calcium, Soil pH *and crops under* nutrition—of leaves to prevent air-pollution injury, 3034
Limonius californicus, 3533
Linalol determination, 2671a
Lindorus lopanthae, 3858
Liothrips oleae, 1857
Lippia turbinata, 630
Liquidambar styraciflua, 1759
Liquorice from *Glycyrrhiza* spp., 1701p, 2621
Liriodendron tulipifera, 1759, 2035
Liriomyza langei, 2492
Liriomyza spp., unspecified, 2690
Listrinotus oregonensis, 3669
Litchi—
fruit twinning, 1863d
growing in various countries, 1863h, 2827g, 3893k
ringing, 2815
Lithium nutrition of plants, 2059, 2687, 3713
Lochnera rosea—see Vinca
Loganberry growing in Great Britain, 2008b
Loganberry soil management, weed control 3352
Lolium spp. as weeds, 3354
Lonchocarpus spp., insecticidal plants, 981
Longidorus sylphus, 1660, 2635
Lonicera spp., propagation by cuttings, 726, 2749
Lonicera spp., water relations, 1030
Loquat—
composition, leaf, 755
growing in various countries, 2183b, 2765
root growth, 1121
temperature responses, 1121
Lorryia sp., on citrus, 1837

Loughgall hort. Demonstr. Centre, Co. Armagh, 1996
Luddington exp. Hort. Stat., A.R., 66m
Lupin propagation, 2763g
Lupin varieties, 2763g
Luvanga scandens, 2624
Lychnis coronaria, 3715
Lycopersicon spp.—*see also* Tomato—virus resistant, 576b
Lygus campestris, 492
Lygus hesperus, 1520
Lymantria dispar, 1340, 1341

Macadamia—
flower biology, 2828p
nutrition, 1854
nuts, harvesting and husking, 816
propagation, 1998
research in Hawaii, 4017
seed germination, 2816
varieties, 1854
Machines and implements—*see also* Apparatus; Herbicides *and* Sprays *under* equipment; *and* Tools *and* Tractors—
for coffee plantations, 1959a, 2857
for cooling horticultural produce, 1074
cultivating, 57, 71, 154, 155, 181z, 588
decorticating, for fibres, 3683
fertilizer distributors, 3134
fumigation—*see* Fumigation, soil
grading for—
fruit, 181z, 1187a, 2002
nuts, 816
peas, 1494
grafting, 2210, 3219
for grubbing trees, 157
harvesting for—
bulbs and corms, 3090q
castor beans, 3704
fruit, 3172, 3189h
hops, 653
ramie, 3683
sugar cane—*see* Sugar-cane
tea, 1999, 2978
tung, 993
vegetables—*see under* Harvesting
harvesting-packing combine, for celery, 1460
hoes, power-operated, 58, 154, 155, 1084s
horticultural, in Canada, 3091
horticultural, in Great Britain, 2075
for husking macadamia nuts, 816
inoculum sowing, 2087n
for labelling packing cases, 1084c
for lawns and sports grounds, 3815c, 3816g
mowing, 153, 181z
nursery, 1782a
packing, 997
planting for—
bulbs, 3090t
sugar cane, 2994t
various crops, 3090t, 3683
vines, 1219, 2212, 2213
ploughs, 57
Machines and implements (*continued*)—
for plugging (calyx removal) strawberries, 192
pruning, 58, 181z
for pulling up stalks, 2559
for rock disintegration, 1069
for row crops, 1084s
for shredding pruning wood, 2224
soil block—*see under* Pots, soil
soil shredding, 3815c
for staking and stringing beans, 3604g
subsoilers, 57
for sugar cane—*see* Sugar-cane *under* harvesting *and* machinery
for tea gardens and factories—*see* Tea machinery
for tobacco, 2559, 2615b
for tropical crops, 1962, 2859
for vineyards, 58, 241t, 1219, 1220, 1240e, 1240i, 1240j, 2212, 2213
washing, for coffee beans, 2857
for weed control, 1382, 3996w
winches, 3083
Macrocentrus homonae, 943
Macrodactylus pumilio, 1786, 3723
Macromischoides spp., harmful ants, 880
Macronoctua onusta, 3757
Macrophoma dalmatica, 828
Macropsis fuscula, 269
Macrosiphum pisi, 472
Macrosiphum sanborn, 2679
Macrosteles fascifrons, 1530
Madagascar, crops, 950j, 1701r
Madeira, horticulture, 2
Madras, agric. Dep., Administ. A.R., 4021
Maesa lanceolata, 1755
Magnesium—
content of plants, seasonal variations in, 3210
determination, 1085b, 2087t, 3089c, 3089w, 3089y
interrelationships with other elements, 1247, 2779, 3525, 3806, 3807, 3891
losses from orchard soils, 1818
nutrition—*see also* Apple, Citrus, Tobacco, Tomato *and* Vine *under* nutrition—
a book on, 3998
of fruit and nut crops, deciduous, 250, 2230, 2245, 4004
of fruit and plantation crops, evergreen, 893, 1854, 1908, 1909, 2840, 2870, 2912, 2966, 3937, 3938, 3950, 3990, 3997k
of ornamentals, 3806, 3807, 3812
root aeration affects, 2588
seed quality affected by, 3525
of vegetables, 548, 1458, 1464, 3525
Magnolia—
flower respiration, 3802
nutrition, 3792
pests, 1761
Malachra capitata, 2637
Malate, role in fruit respiration, 2173
Malaya, crops, 868, 2401
Malaya Dep. Agric., A.R., 1995
Maleuterpes spinipes, 1840

Malic acid in plant metabolism, 2024
Mallotus japonica, 663
Mallotus philippinensis, 2671u
Malonic acid in plants, 2557t, 3638
Malpighia glabra, 2987, 2988
Malpighia punicifolia, 951s, 1958, 2831, 2987, 3990, 3991
Malus—*see also* Apple *and Pyrus*—
arnoldiana, 111
prunifolia, 100
spp., disease resistance, 78
spp., glycoside differences between, 181x
Mandarin—*see under* Citrus
Manganese—
application, foliar, 3738
content of plants, seasonal variations in, 3210
deficiency, lime-induced, 2149, 2247
deficiency, virus expression affected by, 2584
determination, 834, 2087g, 3892h
interrelationships with other elements, 251, 1540, 2443, 3578
nutrition—*for separate crops see each under* nutrition—
of fruit and nut trees, deciduous—*see also* Apple—251, 2341t
of fruit and plantation crops, evergreen, 755, 761, 835, 1909, 2869, 2870, 3896, 3937, 3990
general, 4004
of ornamentals, 3738
of small fruits, 1249
of vegetables and tobacco—*see also* Tomato—1540, 1617, 2443, 2482, 2584
-plant acidity relationships, 1540
sources, chelates, 3738
toxicity, 43, 45, 1485, 1561, 2388, 2482, 3578
uptake, factors affecting, 2088j, 2443
Mango—
breeding and selection, 3997j
climate, air pollution, 2887
composition, fruit, 845, 1902, 2888
diseases, non-parasitic, 2887
flower bud initiation and development, 2884, 2885
fruit—*see also above*, composition—
drop, 2886
fumigation, 1903
ripening, growth substances affect, 885
set, factors affecting, 884
fruiting, biennial, 2885, 2994b
growing in various countries, 952d
nutrition, 1959c
pests—
fruit flies (*Anastrepha* and *Dacus* spp.), 1903, 3897
hopper (*Idiocerus* spp.), 984
mealybug (*Drosicha stebbingi*), 3949
pollen storage and germination, 883
pollination, 884, 2886
products and by-products, 4017
research in India, 4021
storage, 886, 1183, 2888
varieties, 981, 1865, 1959i, 1975, 2993f, 3997n
Mangosteen, a bibliography, 1960x
Manila hemp—
breeding, 635, 2640, 2671c, 2672i, 3682
composition, 638, 2641
cytology, 2672k
diseases, fungus, 639, 2642, 2672j
diseases, virus, 634-638, 669f, 2641, 2671c, 2671j
fibre quality, 637
nutrition, 634
pests, 2993z
varieties, 1995, 2671c, 2672j
Manuals and other books—*see also* Reviews, book—on—
air pollution, 4006
apple varieties, 4002
botany, 973
bulbs, 2008b, 3751
cabbage varieties, 969
carnations, 2008b
citrus, 2997
coffee, 1968
cork oaks, 4029m
diseases—
bacterial, 976
and their control in general, 955, 3999, 4010
of fruit, 953, 4009
of vegetables, 1585f
entomology—*see also below*, pests—4003
fat and oil metabolism in plants, 4008
frames, 4029a
freezing preservation, 3009
fruit growing, 962, 979, 2998, 3000
garden planning, 4029a
gardening—*see* Gardening
glasshouses, 4029k
growth substances, 978
hardiness of plants, 972
horticulture, 1966, 1978
horticulture on the Canadian prairies, 4011
house plants, 2008c
lilies, 2008b
magnesium as a plant nutrient, 3998
mango varieties, 1975
medicinal plants, 967
mulching, 4007
orchids, 1970
ornamental annuals and perennials, 1971
pea varieties, 4000
pests—
biological control of, 346g
of citrus, 2795
and their control in general, 1973, 3999
of fruit, 4009
of vegetables, 1585f
physiology, plant, 975
poisonous plants, 963
propagation of horticultural plants, 3003
pruning, 4012
radioisotopes in biology and agriculture, 958
raspberries and loganberries, 2008b
rhododendrons, 959
seed storage, 974
small fruits, 4001

Manuals and other books—on (*continued*)—
soil—
analysis, 980
block gardening, 956
general, 1977
spice plants, 967
staining techniques, 1003e
strawberries, 187
sugar cane, 965, 1974
tea, 966, 971
tobacco, 968
vegetable growing, 964, 3002
virus diseases, 1976
viticulture and vine varieties, 1967
wine making, 977
Marasmius—
oreades, 3769
perniciosus, 3918, 3996p
sacchari, 2952
Marcotting—
growth substances for, 1756, 2771, 3111
ornamentals, 718, 1756
plastic covers for, 718, 1756, 2771
temperate fruit and nut trees, 236, 3111
tropical fruit trees, 2771
wattle trees, 2004
Margarodes vitium, 1347
Marigold—*see also Calendula and Tagetes*—
diseases, fungus, 3744
essential oil from, 2654
tissue culture, 2051
Market gardening, economics, 2381
Marketing—*see also* Packing—
co-operative, 54
flowers—*see* Flowers, cut
fruit, 181s, 1873, 2084, 2182o, 3087, 3088, 3189f, 3189 l
horticultural produce—
generally, 1068
in Great Britain, 2083, 2084, 3086, 3089f
in Guatemala, 3997a
in India, 2087s
tea, 966
tobacco, 617g
vegetables, 1586f, 2084, 3087, 3088, 3471, 3545
Marrow diseases, 2449
Marssonina panattoniana, 2329
Mastic (*Pistacia lentiscus*), 2672h
Matricaria chamomilla, 1701p
Matricaria suaveolens, 3352
Matthiola—*see* Stock
Mauritius, crops, 576m, 951b
Mauritius Sugar Ind. Res. Inst., A.R., 3959
Mechanization—*see also* Machines—economics, 951j, 2859
Mecistorhinus tripterus, 3920
Mecyna gilvata, 3690
Medicinal plants—*see also* Alkaloids, Cortisone *and entries under* Castor, Fig, Papaw, Pomegranate *and* Poppy *and species of Aegle, Agave, Alangium, Aloe, Ammi, Angelica, Aristolochia, Atropa, Baccharis, Calluna, Casimiroa, Cassia, Chenopodium, Cissampelos, Crocus, Digitalis,*
Medicinal plants (*continued*)—
Dioscorea, Diospyros, Gentiana, Glycyrrhiza, Gomphocarpus, Ipomoea, Luvanga, Matricaria, Panax, Pavetta, Psoralea, Rauwolfia, Scilla, Strophanthus, Tylophora and Wagatea—
books on, 967
in Germany, 967
in Holland, 2671i
in Italy, 1662
Kannada names of, 670e
in Madagascar, 1701r
reviews on, 1663, 1664
in Rhodesia, 1755
in the U.S.S.R., 3712h
Mediterranean fruit fly—*see Ceratitis capitata*
Medlar varieties, 1093
Melaleuca spp., as essential oil plants, 2671t
Melaleuca spp., propagation, 725
Melanconium elaeidis, 894
Melastoma malabathricum, 2053
Melia azedarach, 1782h
Melissa officinalis, 628
Melittomma insulare, 2854
Meloidogyne—
arenaria, 1574
exigua, 1894
hapla, 407, 1574, 1575, 2547, 3527
incognita, 305, 576v, 608, 1314, 1436, 1574-1576, 2547, 2557d
javanica, 305, 1312, 1574-1576, 2557d, 3599
spp., unspecified, 212, 1313, 1473, 1667, 2545, 2546, 2578, 2604, 2615g, 2733, 3104, 3600, 3601
Melon (cantaloupe and musk)—*see also* Cucurbits *and* Water-melon—
breeding, 3460
broomrape on, 378
climate, disorders associated with, 3467
composition, fruit, 1464, 2428, 3190e
diseases—
cause uncertain, 3467
fungus, downy mildew (*Pseudoperonospora cubensis*), 447
fungus, fusarium wilt (*F. oxysporum*), 3468
market, 3471
in the U.S.A., 1466
flowers, sex expression, 2420
fruit—*see also above*, composition—pericarp structure, 437
fruit ripening, 3190e, 3471
growing under plastic, 2385, 3465
growing in various countries, 576p, 1415, 3604h
growth cycle, 2415
growth rate, 3460
marketing, 3471
nutrition, 1423, 1464
pests, insects, 998
pests, nematodes, 1436
propagation by grafting, 3464
soil management, mulching, 3465
soil management, weed control, 357, 1398
spray residues and injuries, 2426, 3336

Melon (*continued*)—
storage, 1183, 2428
varieties in the U.S.A., 435, 1585g, 1993, 2557x
Mentha spp.—*see* Mint
Mercury determination, 2341a
Merodon equestris, 708, 2702, 2726, 3762
Mesembryanthemaceae, culture, 3816j
Metagonistylum minense, 2954
Metamasmius hemipterus, 2954
Metarrhizium anisopliae, 951h, 2994s
Metatetranychus—
citri—*see* Citrus pests, mite, red
ulmi—
control, biological, 347b
control, chemical, 280, 311, 314, 316, 317, 326, 347h, 1315, 1317, 1318, 1371w, 2298, 2300, 2301, 3297, 3333, 3337t
populations, factors affecting, 3298
spray-resistant strains, 1315, 1318
sprays encourage, 2301, 2339
tree and fruit reactions to, 312, 313, 3296
Metaxenia in dates, 810
Meteorological equivalents, 2206
Meteorology—*see also* Climate—agricultural, 2087k
Meteorology, *Observer's Handbook*, 1972
Micrandra spp., Amazonian, 899
Micro-climate—*see* Climate
Microscope, electron, and its application, 1655r, 3089g
Middelrode hort. Exp. Holding, A.R., 4019
Milla uniflora, 2677
Millipede control, 3425
Mimosa pudica, 34
Mimulus cardinalis, 1783g
Mineral nutrition—*see* Nutrition
Minnesota agric. Exp. Stat., A.R., 1003f
Minor elements—*see also separate elements, and* Deficiencies, Nutrition, *and crops under* nutrition—
deficiencies in Australia, 2243
deficiencies in South Africa, 4004
in plant nutrition, 1085e, 2389, 3240g, 3893c
sources, glass frits, 3074
Mint (peppermint, spearmint and other *Mentha* spp.)—
composition, 2632, 2634
diseases, fungus, 1283, 2634
diseases, virus, 2633
growing in India, 629
growth substance responses, 2631
nutrition, 628, 2632, 3062
oil, essential, 628, 630, 669n, 2631-2633, 3679
pests, 1660, 2635
physiology, photoperiodic and temperature responses, 3679
seed germination, 2630
soil management, weed control, 380, 388, 1398, 3403-3405
species, 629
Mississippi agric. Exp. Stat., A.R., 993
Missouri agric. Exp. Stat., A.R., 3020
Mist sprays—*see also* Cuttings *and* Humidifiers—plants grown under, 720
Mistletoe, host reactions, 2346
Mites—*see also scientific names, and crops under* pests—
control—*see also* Acaricides—
biological, 1323
chemical, 319, 346p, 573, 1360, 3801, 3856
cultural, 3299
DDT encourages, 325
fungicides affect, 2298, 2327
gall-producing, 3338c
populations, factors affecting, 785, 1316, 3298, 3299
predacious, 346h, 1323, 2339, 2341o
as virus vectors, 1271
Mitochondria, plant, 12, 13, 17, 3645
Mole control, 2680
Mollugo verticillata, 3357, 3359
Molybdenum—
contents of plants, 3578
interrelationships with other elements, 549, 1452, 2443, 2480, 3578, 3989
nutrition—*for individual crops see each under* nutrition—of—
fruit and plantation crops, 145, 893, 1983, 3989
hops, 1983, 2645
tobacco, 1617, 1983
vegetables, various—*see also* Cauliflower *and* Tomato—2406, 2443, 2480
radioactive, 3062
Momordica charantia, 1471, 2556a, 3604a
Monarthropalpus buxi, 730, 1761, 3722
Monilia—see also Sclerotinia—roreri, 3919, 3920
Montbretia storage, winter, 1782e
Moringa oleifera, 2655
Morocco—*see also* Africa, North—crops, fruits and nuts, 1232, 2010, 3892n
Morocco, crops, vegetables, 414, 1586c, 2010, 2411
Moss—
assessment in lawns, 362
control in lawns, 363, 1393, 2366, 3371
control on plants, 3913
Mouse—*see under* Rodents
Mozambique, crops, 2963
Mucuna spp., herbicide translocation in, 3407p
Mulberry—
flowering, secondary, 1120
growing in the U.S.S.R., 2183e
leaf—
anatomy, 2137
composition, 2137, 2183h
morphology, 2183h
pests, 3314
seed germination, 1120
species and varieties, 1093
Mulching—
a book on, 4007
crops—*for individual crops see each under* mulching *or* soil management—

Mulching—crops (*continued*)—
fruit and plantation crops, evergreen—*see also* Coffee—833, 932, 1807, 1904
fruit trees, deciduous—*see also* Apple, Peach *and* Pear—1147, 2003
lawns, 3079
ornamentals, 2702, 3079
small fruits—*see also* Loganberry, Raspberry *and* Strawberry—1201, 2061, 2210, 3079
tobacco seedbeds, 579, 581, 582
vegetables—*see also* Tomato—2512, 3465, 3539, 3604i, 4007
diseases affected by, 579, 1201, 3079, 3539
for frost protection, 256
insects controlled by, 1581
materials—
aluminium foil, 1991, 3079
asphalt, 3079
bark, 2061, 2062
corn cobs, 721, 3079
gravel, 3079
hay, 579, 581, 582, 833, 2159, 3572
manure, 2514
paper, 833, 3079, 3465
peat, 147, 1147, 2702
plastic, 576n, 1071, 1991, 2210, 2512, 3079, 3465, 3539, 3572, 3604i
sand, 581, 582
sawdust, 147, 997, 1144, 1147, 1201, 1238, 1581, 2062, 3079, 3572
straw, 1144, 1147, 1807, 1904, 2062, 2161
tung hulls, 833
wood chips, 3079
nutrition in relation to, 2062, 2868
seed germination improved by, 1238
sod—*see under* Cover crops
soil characters affected by, 147, 2159, 2162
Muntingia calabura, 2053
Murraya exotica, 671
Musa—*see also* Banana *and* Manila hemp—
acuminata, 951v
balbisiana, 2672k
spp.—
cytology, 2672k
disease resistance, 2671c
fibre yielding, 3682
taxonomy, 1961g, 2640
Muscari, hot water treatment, 2702
Mushroom (mainly *Agaricus* (*Psalliota*) spp.)—
bed casing, 1991, 3504
composts, chemistry, 3505
composts, preparation, 3604r
diseases, fungus, 476, 1586k, 2457, 3506, 3507
growing in various countries, 576u, 1585r
growth, neoplastic, 474
growth, radioactivity affects, 3505
nutrition, 3505
pests, insects, 1496, 3506
pests, nematodes, 475, 3508
physiology, 3504
sporophore production, factors affecting, 3504
Mushroom (*continued*)—
tray sterilization, 3506
volatile substances from, 3504
Mustard—
diseases, fungus, 2394
growth substance responses, 2034
herbicide responses, 3407d
nutrition, 2388
oil vapour, plant mutations induced by, 3664m
weed control, 374, 3390
Mutations—
induced in various plants, 20, 1878, 2099, 3643, 3664m
natural, in—
fruit and nuts, 82, 1799, 2182g, 2184, 2253, 2785, 3190l, 3249
ornamental plants, 681, 742b, 743s, 2762g, 2762o
tobacco, 617b
vegetables, 1450, 1586l
Mycena citricolor—*see Omphalia flavida*
Mycorrhiza—
of fruit plants, 2125
of tropical plants, 1008
vitamins produced by, 3090i
Mycosphaerella—
brassicicola, 1445, 3444
citrullina, 2427
fragariae, 3284
ligulicola, 689
melonis, 2424
Myelois venipars, 3313
Mylabris tiplensis, 507
Myoporum bontioides, 2636
Myrciaria jaboticaba, 1786
Myrica asplenifolia, 358
Myrica gale, 2667
Myristica spp. as rootstocks for nutmeg, 3668
Myrmelachista spp., harmful ants, 1867, 3946
Myrobalan—*see Prunus cerasifera*
Mysore agric. Dep., work of, 1003g, 1997
Myzus persicae, 497, 779, 1270, 1641, 2615o, 3153

Narcissus—*see also under* Bulbs—
bulb—
insecticidal dips, 708, 1740, 2726
production, flower removal affects, 3761
sterilization, 708, 2702, 2726, 2727, 2763s, 3762
flowers, cut, packing, 997
flowers, pigments, 3815e
pests—
insects, 708, 1982, 2000, 2702, 2726, 3762
mites, 1740, 2727
nematodes, 1725, 2702
planting methods, 2702
pollen studies, 2725
soil management—
fumigation, 1725, 2702
grassing down, 2702
weed control, 388, 2362, 3363, 3388

Narcissus (*continued*)—
varieties, 1987
Year Book, R.H.S., 707
Nastic movements in beans, 3477
Nasturtium officinale—*see* Watercress
Nasturtium (*Tropaeolum*)—
dwarfing in, 2025
foliar absorption of cobalt, 3064
physiology, 2028
seed composition, 1053
National Agricultural Advisory Service—*see under* Annual Reports, N.A.A.S., *and* Great Britain
Nectar secretion by plants, 1128, 1705, 1782n, 2190, 3748
Nectarine—
origin, 82
pests, 1785
varieties, 2092
Nectria dodgei, 1896, 2878
Nectria galligena, 1291, 3337d
Nelumbo nucifera, 1781
Nematode(s)—*see also individual species*—
beneficial, 684
control—
by CBP, 1726
by chloropicrin, 2748
by crop rotation, 1436, 1725, 1959s, 2545, 2604
by D-D, 407, 1435, 1519, 1576, 1725, 1916, 2546, 2557d, 2604, 2605, 2635, 2702, 2748
by dibromochloropropane (Nemagon, etc.), 1314, 1576, 2322, 2557d, 2635, 2805
by dibromoethane (Dowfume), 2748
by dichlorophenyl diethyl phosphorothioate, 2685, 2686
by dichloropropene, 797
by dimethyl tetrahydrothiadiazine thione (Mylone), 2471
by ethylene dibromide (EDB), 307, 407, 1519, 1576, 2546, 2557d, 2605, 2635, 2702
by fertilizers, 2546
by formaldehyde, 475, 1726
by fumigation of soil, general, 583, 1595, 1655g, 2396, 3337l, 3653
by hot-water treatment, 1311, 1667, 2733
under living plants, 2685, 2686, 2805, 2806
by methyl bromide, 1066, 1313
reviews on, 3022
by sodium N-methyl dithiocarbamate dihydrate (Vapam), 576v, 1576, 2557d, 2748, 2806
by soil cultivation, 3600
by systemic insecticides, 699, 796, 2693, 3746
by tetrachlorobutadiene, 2546
water pressure injector for, 1371j
of crops—
fruit and nuts, deciduous—*see also* Strawberry pests—212, 305-307, 309, 1311-1313, 2321, 2322, 3773
Nematode(s)—of crops (*continued*)—
fruit and plantation crops, evergreen—*see also* Citrus pests—1862m, 1894
ornamentals—
annuals, biennials and herbaceous, 699, 995, 2693, 3746
bulbs and tubers, 699, 1725, 2702
lawns, 2763m, 3773
woody, 2321, 2748, 2763m
various—*see also* Tobacco pests—1660, 2615g, 3773
vegetables—*see also* Mushroom *and* Tomato *under* pests—407, 413, 1473, 1504, 1519, 1574, 1585o, 2396, 3527
fungus infection affected by, 684, 1655m, 2547
host nutrition relationships, 309
host resistance to, 305, 1473, 1574, 1655m, 3104
irrigation affects, 3601
population increase after fumigation, 1916
in roots, recovery methods, 3893i
in roots, staining techniques for observing, 2828m, 3893g
soil—
management affects, 3599
moisture requirements, 3600
pH affects, 2578
sickness relationships, 1253, 2321
transmission of, 2804
virus transmission by, 1275
Nematus olfaciens, 1346
Neofabraea malicorticis and *N. perennans*, 283
Neolecanium cornuparvum, 1761
Neomaskellia bergii, 1940
Neorhizoecus sp. on sugar cane, 4013
Nephantis serinopa, 2994n
Nephelium lappaceum, 984, 2989
Nephrolepis sp., physiology, 1027
Nephthytis pests, 1711
Nepticula malella, 3316
Nerine breeding and selection, 3713
Neutron irradiation of plants and seeds, 2615u, 2762e
New Gold Coast Farmer, a new periodical, 3023
New Guinea, British—*see* Papua and
New South Wales—*see also under* Australia—Dep. Agric., A.R., 1998
New York St. agric. Exp. Stat., A.R., 2008m, 4029n
New Zealand—
crops, fruit trees and plants, deciduous, 3214
crops, ornamentals, 691, 1782u, 2728
Dep. Agric., Hort. Div., A.R., 994
D.S.I.R., A.R., 995
D.S.I.R., handbook on, 1084n
Niacin—*see under* Vitamin B
Nickel—
content of plants, virus affects, 1682
nutrition of vines, 3231
toxicity, 1428
Nicotiana—
glauca, 1627, 2593, 3631
glauca × *langsdorffii*, 3664n

Nicotiana (*continued*)—
glutinosa, 1632, 2592, 3664e
rustica, 617f, 1592, 1626, 2582, 2590, 3075, 3606, 3636, 3664 l
spp.—
alkaloids—*see also* Tobacco, composition, alkaloids—1625, 1626, 2592, 2593
collections, 1590
disease resistance, 617n, 2615t
grafting, intergeneric and interspecific, 1625, 3636, 3637
growth substances in, 2615 l
hybrids, interspecific, 3664n-3664q
nematode resistance, 608, 2615g
pollination, 2590
suaveolens, 3664o
sylvestris, 617n, 2593, 2615 l
tabacum—*see* Tobacco
Nicotine and nornicotine—*see also under Nicotiana* spp., alkaloids, *and under* Tobacco, composition, alkaloids *and* physiology—
biosynthesis, 2592, 2593, 3629-3633, 3636
contents of plants, factors affecting, 1617, 1626, 2592, 2593, 2595, 3618, 3635
degradation, 1655u, 3634
determination, 1655o, 2615f, 3631, 3664e, 3664f
-glucoside compounds, 3664t
Nigeria—
crops, 2890, 2993d
Dep. Agric. (Central), A.R., 1003h
Dep. Agric., Western Region, A.R., 4029o
Nitrate formation in soil, 1065
Nitrate toxicity to plants, 3936
Nitrite toxicity to plants, 504, 3936
Nitrogen—*see also* Ammonia, Nitrate, Nitrite, Urea *and other organic compounds, and separate crops under nutrition*—
compounds in xylem sap, 11
content—
disease affects, 1295
in plant families, 2723, 2730, 3764
seasonal variations in, 2217, 3210
determination, 1060, 3090g
fixation by non-legumes, 2667
foliar application of compounds other than urea, 918, 3136
foliar application of urea—*see* Urea
metabolism in plants, 1063, 2723, 2730, 3764
nutrition—
boron deficiency affected by, 3455
disease resistance affected by, 650, 2421
flower induction affected by, 3566
of fruit crops, 1143, 2183i
iron deficiency affected by, 3811
irrigation affects, 2868
leaf pigments affected by, 3642
magnesium deficiency affected by, 3807
molybdenum in relation to, 549, 1452, 3989
of mulched crops, 2062
nicotine content affected by, 1626, 3628
pest populations affected by, 3298
phosphorus in relation to, 3139
Nitrogen—nutrition (*continued*)—
physico-chemical properties of plant sap affected by, 2939
plant age in relation to, 3936
plant analysis as a guide to—*see also under* Leaf analysis—2217, 3228
potassium in relation to, 455, 3952
root aeration affects, 2588
root growth and distribution affected by, 3796, 3837
vitamin content affected by, 499
water content affected by, 2481
radioactive, 3628, 3629
sources—*see also* Urea—
amino acids for embryo culture, 1052
ammonium and nitrate compared, 993, 1813, 3488, 3618, 3811, 3835, 3836
ammonium and urea compared, 3970
anhydrous ammonia, 917, 1084b, 1959v, 3488
aqueous ammonia, 2938, 3529, 3971
hydrocyanic acid, 789
various, comparisons between, 504, 3202
toxicity, 1528, 3936
Nomenclature—
botanical, 670e
horticultural, 1005
pruning, 2141
Nornicotine—*see under* Nicotine
North Africa—*see separate countries*
Northern Ireland, Minist. Agric., A.R., 1996
Norway, crops, 394, 577b
Norway, ornamental plants, 743o
Nottingham Univ. Sch. Agric., A.R., 4024
Nucleic acid(s)—
contents of plants, 1009, 3984
growth substances affect, 3639
plant growth affected by, 1051, 2042
properties, 1655p
synthesis, 1084q
in tissue culture media, 2051
Nursery(ies)—
economics, 2182d
labour efficiency in, 2087i, 2763k
soil sickness in, 1253, 2321, 2341q
stock—*see also individual species*—
diseases, 2242
growing in containers, 1757
nomenclature, 1005
packing, 687, 3730
pests, 2242, 2680, 2750, 3302
plastic or wax coatings for, 1808
pricking out, 2087i
storage, 727, 3730
weed control—*see* Weed control in specific areas
Nut(s)—*see also individual species*—
composition, 66w
germination, 2225
Growers' Ass., Northern, A.R., 3024d
growing in various countries, 73, 195, 3240v
nutrition, 2240j
production and trade, 3190a, 3240o, 3240v
varieties, 1093, 3101

Nutgrass—*see Cyperus* spp.
Nutmeg propagation, vegetative, 3668, 4021
Nutrient(s)—*see also separate elements*—
absorption and translocation, 66 l, 132, 3133, 3138
cation and anion balances, 3938
leaching from soil, 1224
mist, plants grown in, 2153
soil, changes and redistribution in orchards, 1816, 1818, 2766
solutions—*see also* Soilless culture—interaction between constituents, 1085n
transfer between plants through adjacent root systems, 42
Nutrition—*see also* Fertilizers *and individual nutrients*—
by bark application, 3138
of crops—*see also below*, foliar, *and separate crops under* nutrition—fruits, 2054, 2146, 2182s, 2183i
of crops, vegetables—*see* Vegetables
enzyme activity affected by, 1022, 3089s
excessive, of lettuce, 504
foliar—
fungicides and insecticides combined with, 1225, 3229
general, 1085g, 2055
growth substances applied with, 1426
with minor elements—*for compounds commonly applied in this way see under separate elements*—346v, 546, 762, 1244, 3064, 3231, 3581, 3604m
with nitrogen compounds—*see* Nitrogen, foliar, *and* Urea
nutrient absorption, factors affecting, 2056, 3133
with phosphatic compounds—*see* Phosphorus application
of plants—
deciduous fruits—*see also* Apple, Pear *and* Vine *under* nutrition—346v, 1200, 2154
evergreen fruit and plantation crops, 762, 843, 898, 934, 2831, 2995q
ornamentals, 1049, 3713
vegetables—*see also* Beans (*Phaseolus*) *and* Tomato *under* nutrition—543, 1426, 1464
time studies, 71
fungus diseases affected by, 3955
by injection into plants, 1244, 3243, 3844
by injection into subsoil under fruit crops, 3135, 3243
radioactive isotopes used in—*see* Radioactive
reviews on, 3071, 4004
root aeration affects, 2588
sex expression affected by, 1039
by vacuum infiltration, 1049
varietal differences in requirements, 1854
vertumnal balance in, 43
Nutritional value of crops, 577d, 1154, 2088q, 3047, 3412
Nyasaland, Dep. Agric., A.R., 996, 1003i, 4022
Nyasaland, Tea Res. Stats, A.R., 933
Oak—
air pollution damage, 2752
competition with crops, 2623
cork, 1701g, 4029m
Oat, wild—*see Avena fatua*
Ochlandra spp., bamboos, 1673
Ocimum gratissimum, 2627
Oecanthus indicus, 2606
Oecophylla spp., beneficial ants, 1885
Oecophylla spp., harmful ants, 880, 2859
Oidiopsis taurica, 3593
Oidium chrysanthemi, 3720
Oidium heveae, 903, 1920, 2993c
Oiketicus kirbyi, 3308, 3892r
Oil(s)—
analysis, 2671d
essential—*see* Essential
fruit—
apple cuticle, 1157
avocado, 1863k, 3821
oil palm—*see Elaeis* palm oil
olive—*see* Olive
metabolism, a book on, 4008
plants—
in Brazil, 670g, 2659
in India, 1692
in Japan, 663
a review on, 669w
production and trade, 662, 3712f
seed or kernel—
apple, 181a
cardoon, from *Cynara cardunculus*, 1695
chromosome spreading induced by, 1694
composition, 1693, 1701e
from cruciferous plants, 3712a
determination and characterization, 669v, 3712a
from euphorbiaceous plants—*see also* Castor—837, 2660, 2671u
extraction, 2671u
from leguminous plants, 3712s
pecan, 239
poppy, 2671y
safflower, 669v, 2665
storage of seed, 669w
tobacco, 3664d
from various tropical plants, 2664, 3021, 3705
walnut, 2238
Okra (*Hibiscus esculentus*)—
diseases, 2449
pollen germination, 1497
seed oil, 2664
seed treatment, 1498
Oligonychus bicolor, 1332
Oligonychus pratensis, 814
Olive—
climate—
frost resistance and injury, 823-825, 1862f, 2820, 2827m, 2827y, 2827z
growth cycle affected by, 2818
temperature responses, 819
composition, fruit, 831
composition, leaf, 755, 820

Olive (*continued*)—
diseases—
bacterial, tuberculosis or knot (*Pseudomonas* spp.), 2822
fungus—
anthracnose (*Gloeosporium olivarum*), 827, 828, 3882, 3883
cercosporiosis (*Cercospora cladosporioides*), 3882
leaf spot (*Cycloconium oleaginum*), 826, 1857, 2827z, 3881, 3882
various, 828, 3883
non-parasitic, 821, 2821
flower bud differentiation, 819
fruit—
composition, 831
maturity tests, 831
temperature affects, 819
thinning, 3880
growing in European countries, 838j, 1862j, 1862z
growing in North Africa, 838f
growth cycle, 2817, 2818
growth, sphaeroblasts, 3878
leaf drop, 3880
nutrition—
boron, 821, 2821
manuring and major elements, 820, 821, 1986, 3880, 4004
zinc, 821
oil—
contamination by sprays, 838a, 838r, 839c, 2823, 2827u, 3883
content, 831, 3888
extraction, 2827d, 3887, 3892c, 3982o
quality, factors affecting, 1860, 3883
pests—
ants (*Pogonomyrmex* sp.), 1859
bast beetle (*Hylesinus oleiperda*), 3885
fly (*Dacus oleae*), 828-830, 838z, 1857, 2691, 2823, 3884
moth (*Prays oleellus*), 3886
scale insects, 3882
thrips (*Liothrips oleae*), 1857
pollination, 822, 3893j
production and trade, 2828a
propagation by grafting, 818
pruning and training, 824, 825, 2819, 2827m, 3150, 3879
research in Tunisia, 999
residues as manure, 10
seed germination, 819
seed treatment, 1855, 2828f
soil reaction, 1856
varieties—
classification and identification, 838o
disease resistant, 2827z, 3882
frost resistant, 2827z
in Italy, 3877, 3892d
in various countries, 72, 2092, 3893j
Olpidium spp., unspecified, 3796
Omphalia flavida, 878, 879, 2879, 2880, 3942
Ongokea gore, 3705

Onion—
bolting, 1499, 3511
breeding and selection, 2556m, 3020, 3509
bulb—
composition, 659, 1500, 3510, 3517, 3605c
dormancy, growth substances prolong, 487, 1507, 3512-3515
dormancy, irradiation prolongs, 488
drying, 1991
flavour, factors affecting, 480, 1500
formation, factors affecting, 2460, 1499, 2460
heat treatment, 3520
storage, 1507, 3512-3518
climate, frost resistance, 479, 1586e
composition—*see above*, bulb
cytology, 1048
diseases—
fungus—
downy mildew (*Peronospora destructor*), 2461, 2557m, 3520
neck rot (*Botrytis* spp.), 2461
Peronospora parasitica, 2395
smut (*Urocystis cepulae*), 2461
white rot (*Sclerotium cepivorum*), 482, 2395, 2461
experiments, uniformity trials, 478
flower biology, 477
flower bud initiation, 3511
growing in the tropics, 576m, 2556m
growth—*see also below*, root—abnormal, 3604c
growth substance responses, 531, 1045
herbicide injury, 3385
leaf stomatal movements, 3039, 3040
leaf surface microscopy, 2557s
mutations, induced, 3643, 3664m
nutrition—
fertilizer placement, 481
flavour affected by, 480, 1500
manuring and major elements, 984, 1500, 2387
minor elements, 44, 480, 1500
pests—
flies (*Delia* spp.), 483, 484, 2462, 2463, 3521
nematodes, 1504
thrips (*Thrips tabaci*), 485, 486, 998, 1505, 2557m
physiology—
light responses, 1500, 2460
respiration, 3512
sulphur metabolism, 3065
temperature responses, 3039, 3040, 3511
water relations, 479
phytoncides from, 659
pollination, 477, 3604j
root growth, 2383
seed—
germination, 62
production, 484, 576t, 1585a, 3604j
treatment, 482, 483, 1506, 2462, 2463, 3521
sets treatment, 483

Onion (*continued*)—
soil—
atmosphere requirements, 62
management, weed control, 349, 352, 379, 380, 998, 1406-1408, 2371, 2372, 2375, 2377, 3378, 3383-3388
pH, 45
storage—*see above*, bulb
varieties, 3509, 3515
wild, control, 993
Oospora virescens, 2663
Operophtera brumata, 333, 2341k
Ophiobolus graminis, 3772
Ophiostoma fimbriata—see Ceratostomella
Opius spp., unspecified, 984
Opsiphanes sp., on sugar cane, 2955
Opuntia spp., control of undesirable, 1352, 3351
Orange—*see under* Citrus
Orchards—*see also* Fruit—renovation, 2182t
Orchards, soil management—*see also under individual crops*—71, 181i, 1144, 1148, 1988, 2146, 2159, 2183a, 2243
Orchid(s)—*see also individual genera*—
a book on, 1970
cytology and genetics, 3816n, 4017
diseases—
fungus, 1747
in the U.S.A., 1706
virus, 1782c, 1782y
flower injury, 1747
fumigation, 713
growing in Colombia, 1746
pests, insects, 1747, 4017
pests, snails and slugs, 743n
seed germination, 1745
seedlings, raising of, 2008p
soil mixtures, 712
Origanum spp., growing in Italy, 2616
Ornamental plants—*see also* Flowers, House plants, Pot plants *and separate plants*—
climate, drought resistance, 742m
climate, winter hardiness and injury, 742k, 743r, 3816p
climbing, 742r
composition, factors affecting, 3716
coniferous—*see* Conifers
diseases, 955, 3815a, 3815p
economics, 4
encyclopaedia, 1963
forcing—*see* Forcing
fumigation, 2684, 2685, 3724
herbicide injury, 1386
identification, 1971
nursery stock—*see* Nursery
nutrition, 3716
packing—*see under* Packing
pests, 743j, 1760, 2762k, 3773
propagation, 1103
research in various countries, 4016, 4017
roots, cation exchange capacity of, 3716
seed disinfection, 2683
soil—
management, irrigation, 2067
Ornamental plants—soil (*continued*)—
management, mulching, 3079
pH requirements, 2763o
spray injury, 2681, 2682, 3815y
variety definition, 2674
woody—*see* Trees and shrubs
Orobanche spp. and their control, 372, 378, 1412, 2494
Oryctes rhinoceros, 866, 867, 951h, 2855, 2994s, 3923, 4026
Oryctes spp., unspecified, 861
Oryzaephilus spp., control, 1656, 1712
Osmotic pressure, rootstock-scion compatibility affected by, 2114
Osmotic pressure of soil solution, 2088n
Otiorrhynchus spp. and their control, 832, 1330, 1333
Outlook on Agriculture, a new periodical, 1001
Oxalic acid contents of plants, 3548
Oxalis spp., control, 3356, 3365
Oxalis spp., physiology, 1027
Oyster nut (*Telfairia pedata*), 3711, 4021

Pachyrrhynchus moniliferus, 2842
Packing—*see also* Grading *and individual crops under* packing—
containers—
bags (packages)—
ammonia pellets for disease control in, 3197
for apples, 1163, 1164, 3173, 3189z
machines for filling, 997
for vegetables, 3427
cartons, for—
citrus, 1162
pome fruit, 1165
soft fruit, 2001
stone fruit, 3175, 3189k
plastic and other liners for, 161-164, 995, 3174, 3189a
various, for—
fruit, general, 165, 181y, 2178
grapes, 3240j
small fruit, 1203
vegetables, 181y
house—
construction and layout, 1959j
equipment, 181z, 1162,
operations, economic studies on, 55, 1161, 1166, 1531, 2172
methods for fruit, 2087c, 2182o
methods for vegetables, 2087c, 3427, 3604f
Paeony—*see* Peony
Pakistan, crops, bananas, 3997 l
Pamene rhediella, 3319
Panax sp., a medicinal plant, 2622
Pansy—*see under* Viola
Papaver—see Poppy
Papaw (*Carica papaya*)—
composition, 845, 950f, 1911
fruit, parthenocarpy induced, 3225
growth, fungicide increases, 895
pests, 3897

Papaw (*continued*)—
products, papain, 896
research in Hawaii, 4017
seed, antibiotic in, 2655
soil management, fungicide treatment, 895
varieties, 984
Paper from various plants, 1673, 1701j
Paprika—see under Capsicum
Papua/New Guinea, crops, 868, 3412
Papulaspora byssina, 2457
Paragopsis strigatus, 484
Paratetranychus—see also Mites—
bioculatus, 2984
citri—see Citrus pests, mite, red
pilosus—see Metatetranychus ulmi
ununguis, 3801
urticae—see Tetranychus
Parrotiopsis spp. in Poland, 742g
Parsley—
diseases, 2275, 2329
pests, 3669
seed quality, factors affecting, 2465
weed control, 375
Parsnip—
nutrition, 3078
pests, 1521
seed treatment, 2393
weed control, 3387
Parthenium—see also Guayule—*glomeratum*, 3712v
Parthenocarpy—
induced—*see also* Growth substances, fruit set—in—
apricot, 995
blueberry, 183
eggplant, 2507, 3225
ornamental plants, 2677
tomato—*see* Tomato, fruit
various plants, 3225
watermelon, 438, 2557a
natural in—
citrus, 2827t
pea, 3475
peach, 3132
vine, 3226
Passiflora spp. in Colombia, 2824
Passion fruit (mainly *Passiflora edulis*)—
diseases, fungus, 1862e
fruit composition, 2824
fruit ripening, 3890
nutrition, 996
pests, 3889
pollination, 1998, 3889
propagation, 671
research in Hawaii, 4017
Patchouli—*see* Essential oil *and Pogostemon*
Paulownia sp., light responses, 1759
Pavetta indica, 669b
Pea—
breeding and selection, 576 l, 3605m
cell structure, 2088 l
composition—
seed and pod—
carbohydrates, 3212
Pea—composition—seed and pod (*continued*)—
enzymes—*see below*, physiology
as index of maturity, 1494, 3482
various compounds, 1474, 1475, 3482, 3605b
vitamins, 1015
vine and leaf—
flower-inhibiting substances, 3480
mineral, 2439
organic acids, 2557t
diseases—
fungus—
Cercospora sp., 993
damping-off or seedling blight (*Corticium* and *Pythium* spp.), 468, 469, 2446
foot or root rot, or wilt (*Fusarium* spp.), 468, 1489, 2447, 3499, 3605m
leaf and pod spot, and blight or foot rot (*Ascochyta* and *Mycosphaerella* spp.), 408, 2556o, 3497
non-parasitic, 2442, 2443
seed transmitted, 2556i
varietal resistance, 3499, 3605m
flower bud initiation, 3476
flower development, 3475
flowering, growth substances affect, 3480
fruit development, 3475
grading, 1494
grafting, 28
growing in Great Britain, 3473
growth—
fungicides affect, 3502
growth substances affect, 22, 1046, 1047, 2048, 3045, 3048, 3053, 3479, 3480, 3605g
plant extracts affect, 1085h, 2345
herbicide responses—*see also below*, soil management, weed control—1375, 1404, 1405
nutrition, manuring and major elements, 2439
nutrition, minor elements, 1485, 2443, 3065, 3490
pests—
aphid (*Acyrthosiphon pisum*), 472, 1437, 2453
midge (*Contarinia pisi*), 473
nematodes, 1585o
physiology—*see also above*, growth—
enzyme activity, 12, 13, 66y, 1018, 1586b, 2087x, 3067, 3089r
geotropic responses, 2048, 3048
insecticide responses, 2454
light responses, 3045, 3053, 3089r, 3476
photosynthesis, 2087x
protein synthesis, 3605b
respiration, 67c, 577m, 1031
sulphur metabolism, 3065
temperature responses, 3476
tissue culture, 39, 1046
water relations, 1431, 2066, 2454
pollination, 2502
processing, 1416, 2433, 3212
quality measurement, 1494, 3482

Pea (*continued*)—
root(s)—
exudates, 2436, 2437
growth, 2087u, 2345, 3479
nodule bacteria, strains of, 3485
nodule formation, 2557g
respiration, 67c
system, 2383
seed—
composition—*see above*, composition
germination, 577a, 1474, 3080
production, 576 l, 2556o
respiration, 577m
sowing in sod, 1481
testing and inspection, 2087h
treatment—
with fungicides, 408, 467, 468, 1487-1489, 2445, 2446, 3414
with growth substances, 1055, 2034
with insecticides, 467, 2445, 3414
vernalization, 451, 1476
soil—
management—
irrigation, 1431, 2439
sod culture, 1481
weed control, 349-352, 381, 388, 390g, 1375, 1404, 1405, 2378, 2380b, 2380j, 3387-3389, 3391-3400
pH range, 45
spray residues, 3336
storage of green, 987, 3212, 3503
sweet—*see* Sweet pea
varieties, 391, 576r, 1416, 2002, 2432, 2433, 4000
Peach—
antibiotics, absorption and translocation, 277, 1353, 1354
breeding, 80, 81, 3104-3106
climate—
air pollution, 1241
rain retention by tree top, 1151
spring frost injury, 257, 3163
winter chilling requirements, 109, 260, 993, 2261, 3128, 3130
winter hardiness and injury, 256, 346y, 1100, 2257, 2260, 2341j, 3110
composition—
anther, 18
bark and buds, 3165
leaf, 138-140, 143, 247, 251, 1146, 2106, 2117, 2182z, 3165
diseases—
bacterial, bacterial spot (*Xanthomonas pruni*), 2274
bacterial, blast (*Pseudomonas syringae*), 277
fungus—
brown rot and blossom blight (*Sclerotinia* (*Monilia*) spp.), 90, 993, 1299, 2283, 2288-2291
canker (*Fusicoccum* spp.), 288-290, 3283
collar-rot (*Phytophthora syringae*), 1301
fruit rot (*Rhizopus* spp.), 2283, 2291
fruit storage rots, various, 2290
Peach—diseases—fungus (*continued*)—
leaf curl (*Taphrina deformans*), 1784, 2275, 2287-2289, 3328
mildew (*Oidium leucoconium*), 1310
scab or freckle (*Fusicladium* (*Cladosporium*) *carpophilum*), 993, 1784
shot hole or gum spot (*Clasterosporium carpophilum*), 3282
silver leaf (*Stereum purpureum*), 995
non-parasitic, 245, 251
virus—
calico, 1269
line pattern, 1278
phony disease, 2342c
rosette, 2342b
western X-disease, 2341p
economics, 3096
flower(ing)—
bud differentiation and development, 1113, 3128
dates, 2182v
development, 2135
sprays to retard, 3163
thinning, 3190j
fruit—*see also below*, harvesting, marketing, packing, spray residues *and* storage—
development, 81
gum extrusion, 347i
parthenocarpy, natural, 3132
quality, factors affecting, 2158, 3141
ripening dates, 2182v
ripening, irrigation affects, 3149
set, growth substances reduce, 3163
size, 1113, 3149
thinning, 1981, 2138, 2182k, 3020, 3163, 3189w
growing—
in Canada, 3189q
in China, 2183g
in European countries, 76, 2182o, 2183j
in the U.S.A., 3096
growth—
disbudding affects, 1116
growth substances affect, 3163, 3713
phases, 2135
-substances in, 3165
harvesting, mechanical, 3172
herbicide injury, 349
leaf—*see also above*, composition—
chlorophyll content and synthesis, 247
defoliation, artificial, 1113, 1116
measurement, 1099
preparation for analysis, 9
marketing, 2182o
mutations, 82, 3106
nutrition—
calcium, 245
foliar, 346v
manuring, 139, 140
minor elements, various, 143, 247, 251, 346v, 2248
nitrogen, 181d, 2156, 2157, 3141, 3142, 3152
phosphorus, 1146, 3148

Peach—nutrition (*continued*)—
potassium, 2106, 2182z, 3148
salt injury and tolerance, 2117
packing, 2182o, 3189k
pests—
aphid, green—*see Myzus persicae*
Dichocrocis punctiferalis, 331
fruit flies (*Anastrepha* spp.), 806
fruit moth (*Carposina niponsis*), 3311
Macrodactylus pumilio, 1786
meadow spittlebug (*Philaenus leucophthalmus*), 347i
mites, red spider (*Metatetranychus* and other spp.), 1360, 1784, 3153
nematodes, 305, 1313, 2685, 3104
oriental fruit moth (*Cydia molesta*), 330, 3310
tree borer (*Sanninoidea exitiosa*), 332, 2306
tree hopper (*Caedicia* sp.), 1785
twig borer (*Anarsia lineatella*), 2341d
physiology, translocation of antibiotics, 277, 1353, 1354
physiology, water relations, 1144, 1145, 3148
planting on old peach soils, 1300, 2182b, 3142
pollination, 1187 l, 3132
processing, canning, 3141
production and trade, 2183j
propagation by cuttings, 91, 2106, 3112
propagation by marcotting, 3111
pruning, 130, 131, 181b, 181d, 1135, 1187d, 1998, 2260, 2341j, 3150, 3152, 3153
research in Australia, 1086
as a rootstock for apricot, 1982
rootstock(s)—
age at budding, 3123
drought resistance, 1112
hardy, 256, 2111
identification in nursery, 2182p
nematode resistance, 305, 3104
salt injury and tolerance, 2117
-scion relationships, 97, 3123
in various countries, 3106, 4021
seed—
embryo culture, 3109
embryo development, 81
rootstocks raised from, 90
stratification and vernalization, 3110
soil—
management—
cover crops and grass, 1146, 1149, 3145
cultivation, 2157
fumigation, 1300
irrigation, 2158, 3020, 3149
methods compared, 1145, 2162, 3145
mulching, 1144, 2162, 3145
weed control, 357
oxygen requirements, 1144
waterlogging, 3081
spray injury, 993
spray residues, 331, 1376
storage, 160, 169, 170, 806, 1187p, 1999
Peach (*continued*)—
varieties—*see also above*, mutations—
in Argentina, 1187q, 3105, 3106, 3190b
Donna Mary, 2102
for glasshouse culture, 1987
Hale, 3132
hardy, 993, 1100
identification in nursery, 1099, 2101, 2182p
in Italy, 3189c
in Nyasaland, 996
spring frost resistance, 257
in Tunisia, 72
in the U.S.A., 2092, 3189j
wood anatomy, 1116
Pear—
climate—
spring frost injury and protection, 127, 255
temperature responses, 108
winter chilling requirements, 3128, 3130
winter injury and hardiness, 101, 256, 1094, 1111, 3190g
composition—
cell-wall, 178
fruit, 178, 1156, 2180
leaf, 247, 1152, 1295, 3242
diseases—
bacterial—
blossom and twig blight (*Pseudomonas syringae*), 276, 1089
crown gall (*Bacterium tumefaciens*), 275, 2280
fire-blight (*Erwinia amylovora*), 1281, 1282, 2272
cause uncertain, 2280, 3247, 3248
fungus—
bitter rot (*Glomerella cingulata*), 284
bull's-eye rot (*Neofabraea* spp.), 283
Pythium spp., 2281
rust (*Gymnosporangium* spp.), 287, 1295
scab (*Venturia pirina*), 1288, 1289, 2328, 2342r, 3280, 3281, 3337m
non-parasitic, hard-end or black-end, 264
virus, 265, 1264, 2341w
economics—
capital value of orchards, 1110
marketing, 1166
of roadside trees, 2183c
flower bud differentiation, 1113, 3128
flowering, time of, 2182h
fruit—*see also above*, composition, *and below*, harvesting, packing *and* storage—
cell development, 3131
colour, factors affecting, 2328
drop, pollen source affects, 1124
ethylene uptake by, 1177
growth, 114, 3131
ripening—*see also below*, storage—
altitude affects, 110
enzyme relationships, 2175
tests for, 181r, 1187f, 2180
shape, factors affecting, 1124
thinning, 1129, 1139
growing as a roadside tree, 2183c

Pear (*continued*)—
growing in various countries, 1089, 2182o, 2183j, 3095
growth, maleic hydrazide controls, 995
growth phases, 105
harvesting, 3172, 3189h
interstocks, 2115, 3189e
leaf—
area measurement, 3125
chlorophyll synthesis, 247
defoliation, artificial, 1113
mistletoe on, 2346
nutrition—
boron, 347a, 1244
foliar, 346v, 1246, 2154, 3136, 3137, 3242, 3243
iron and lime-induced chlorosis, 247, 346v, 1245, 3242, 3243
manuring, 2182s
molybdenum, 145, 1983
nitrogen, urea sprays, 2154, 3136
phosphorus, 3137
zinc, 134
packing and grading, 1161, 1165, 1166, 2182o
pests—
aphids, 328, 779, 2303, 3321
codling moth (*Enarmonia pomonella*), 326-328, 2316
leaf hopper (*Ceresa bubalus*), 1335
leaf miner (*Leucoptera scitella*), 3317
mites (various spp.), 326, 1318, 1360, 2297
oriental fruit moth (*Cydia molesta*), 331
scale, San José (*Aspidiotus* (*Quadraspidiotus*) *perniciosus*), 3320, 3321
sucker or psylla (*Psylla spp.*), 2341u, 3321
physiology—
enzyme activity, 2175
mistletoe relations, 2346
water relations, 264, 1144, 1152
planting on old pear soils, 2182b
pollination, 3, 116, 1122, 1124, 1187 l, 2129
production and trade, 2183j
products and by-products, 3189b
propagation—*see also below*, rootstocks—
by cuttings, 3112
disease-free material for, 1264
by double-shield budding, 3120
pruning and training, 1137, 1187j, 3150
research in Australia, 1086
rootstocks—*see also above*, interstocks *and* propagation—
Amelanchier spp., 3189u
Crataegus monogyna, 2111
drought resistant, 1112
dwarfing, 3189e, 3189u
in Great Britain, 3189v
hardy, 101, 256
identification in nursery, 2182p
Pyrus spp., 102, 103, 264, 1111, 1245, 2111
quince, 1107, 1111, 1187o, 1245, 2116, 3120, 3189u
-scion relationships, 264, 1111, 1187o, 2115, 3114, 3120
seedling, varietal studies, 101
Pear (*continued*)—
seed—
-fruit relationships, 2131
hardiness of germinating, 1094, 2103, 3190g
stratification, 2103
soil—
management—
cover crops and grass, 2165
mulching, 1144
weed control, 997, 3352
oxygen requirements, 1144
spray injury, 2316, 2327
spray residues, 2338
storage—
cold, 163, 164, 167, 176, 1167, 1174, 1187f
dips and coatings, 347j, 1183
disorders and diseases, 283, 284, 1178, 3187
gas, 1174, 2174, 3187
metabolism, 2174
plastic bags or box liners for, 163, 995, 1182, 1982, 3186
ripening in, 178, 2175, 2176
varietal behaviour, 176
waxed paper liners for, 164
wraps, 163
stump destruction, 3340
varieties—
Anjou, 163
Bartlett, 167
Butirra Precoce, 1098
identification in nursery, 2182p
Kaiser, 1187o
Passe Crassane, 2176
training method in relation to, 1187j
in various countries, 72, 2092, 3103, 3189c, 3189g
Williams' Bon Chretien (Bartlett), 1187f
Peat, horticultural uses, 2088a
Peat, vegetable culture in, 2404
Pecan—
composition, leaf, 238, 239, 1234, 2233
diseases, 304, 1302
nut—
germination, 2225, 2232
oil, 239
storage, 2232
thinning, 2233
nutrition—
experimental design and analysis, 3237
manuring, 238, 1234
minor elements, 2341t
pests, 318, 3773
pollination, 1998
production and trade, 3240o
propagation, vegetative, 237
varieties, 2092, 2240c, 2240u, 2241a, 2241e, 2241j
Pectic substances—
apple, 2166
apricot and cherry, 2177
determination, 1158
pear, 2174

Pelargonium—see under Geranium
Pellicularia (*Corticium*) *koleroga*, 1897
Pellicularia praticola, 742z
Pemphigus bursarius, 3542
Penicillin—*see also under* Antibiotics—wastes as manure, 1061
Penicillium—
digitatum, 804, 805, 2809
expansum, 2283
italicum, 804, 805, 2809
frequentans, 2394
funiculosum, 2916, 3197
godlewskii, 2394
nigricans, 2394
spp., unspecified, 2290, 2531
vermiculatum, 469
Pennisetum clandestinum, 3365
Pennsylvania agric. Exp. Stat., A.R., 2008n
Penstemon, growth substance responses, 2035
Pentatrichopus fragaefolii, 2269, 3267
Peony diseases, 3815f
Peperomia diseases, 2762h
Peperomia spray injury, 1710
Pepper—
black (*Piper*)—
composition, 3665
diseases, 3671
growing in various countries, 669a, 670d, 3670
oil, 1659
preparation for market, 3665
production and trade, 3665
propagation, vegetative, 1658, 4021
red and sweet—*see Capsicum*
Peppermint—*see under* Mint
Perileucoptera coffeella, 1900
Perilla spp.—
growth substance responses, 2037
light responses, 2087e
nutrition, 1049
Periodicals, new or revived, 1000-1002, 2005-2007, 3023, 4027, 4028
Peronospora—
brassicae, 2022
destructor, 2461, 2557m, 3520
ficariae, 2703
parasitica, 496, 2395, 3443
sparsa, 2684
tabacina—see Tobacco, diseases, fungus, blue mould
Persea drymifolia, 3713
Persian Gulf, fruit and vegetable imports, 2085
Persimmon (*Diospyros kaki* and other *Diospyros* spp.)—
climate, responses to, 3130
composition, fruit, 3190e
composition, leaf, 140, 755
fruit ripening, 3190e
pests, 1784
soil moisture and oxygen requirements, 1144
storage, 1861
varieties, 2827 l, 2827w
Peru, crops, castor beans, 2671q
Peru, nat. Congr. agric. Sci., Proc., 981
Pest(s)—*see also* Insects *and individual pests and hosts*—
animal, 2680
books on, 346g, 953, 1973, 3999, 4009
control—*see also* Acaricides, Insecticides, Plant protection *and* Rodenticides—
biological—*see also* Codling moth, Fungi, Mites *and* Sugar-cane—337, 346g, 430, 471, 610, 839p, 943, 951h, 984, 1327, 1328, 1336, 1352, 1773, 1862x, 1886, 2004, 2313, 2341o, 2342g, 2492, 2610, 2854, 3303, 3311, 3314, 3323, 3449, 3892r, 3892v
on fruit crops—*see* Fruit
in glasshouses, 3726, 3784
on ornamental plants, 743j
incidence, forecasting, 3300
plant resistance to, 792
radioactive labelling, 2841
of stored products, 1656
yield reductions due to, 2953
Petiole abscission, 1032, 1042
Petiole, nutrient absorption through, 3133
Petunia—
breeding, 692
double-flowered, 2699
growth substance responses, 2035
pollination, 1714
propagation, 692
as a rootstock for tobacco, 3637
pH—*see also* Soil pH—
indicator, anthocyanin of red cabbage as a, 1085o
organic acids relationships in fruit, 3167
salt uptake of cells affected by, 3078
Phacelia tanacetifolia, 2165
Phalaris canariensis, 356
Phaneroptera furcifera, 780, 2606
Phaseothione in plants, 3604z
Pheidole megacephala, 1885
Phenology—*see under* Climate
Philaenus leucophthalmus, 347i
Philippines, crops, plantation, 868
Philippines, crops, vines, 2241f
Philodendron spp.—
diseases, 3803, 3816b
fungicide and insecticide responses, 2681, 2682
hybrids, leaf forms, 2763r
light responses, 1027
Phlox, pollen germination, 1084j
Phoma—
betae, 2467
destructiva, 2541, 2542
flaccida, 2294
lingam, 408, 2408
spp., unspecified, 2328
Phomopsis—
citri—see Diaporthe citri
cucurbitae, 2424
juniperovora, 2757
mali, 2282
Phorodon humuli, 655
Phorodon pruni, 1363

Phosphorobacter, inoculations with, 2386
Phosphorus—*see also individual crops under* nutrition—
absorption—
through bark, 3133, 3138
by leaves—*see below*, application, foliar
by roots, 2152, 2967, 3489
application, foliar, 898, 1200, 1225, 1372, 2056, 3133, 3137, 3489
application, subsoil, 3134
content of plants, factors affecting, 2163, 3210
determination, 1060, 2087b, 2940
insecticides—*see under* Acaricides *and* Insecticides
localization in variegated leaves, 3073
nutrition—
growth substances affect, 532
minor elements in relation to, 511, 760, 2152, 3806
mulching affects, 2868
nitrogen in relation to, 3139
physiological effects of, 2556r
plant analysis as a guide to, 3834
root aeration affects, 2588
soil depth in relation to, 3615
water content of plants affected by, 2481
radioactive, 19, 133, 134, 1200, 1225, 1372, 1559, 1948, 2056, 2058, 2087b, 2152, 2503, 2841, 2967, 2968, 3062, 3073, 3133, 3138, 3489, 3505, 3547
soil, redistribution under trees, 1816
sources, 590, 1425, 1516, 2152
toxicity, 1528
transfer between plants through adjacent root systems, 42
translocation, 133, 134, 2152, 2967, 3133, 3547
Photographs, board for recording plant height in, 3089o
Photography of roots *in situ*, 1077
Photometry, flame, 1084z, 1649, 2016, 3089w, 3089y, 3090b
Photoperiodism—
dormancy affected by, 1758
enzyme activity affected by, 1084f
growth substance relationships—*see* Growth-substances
light and darkness cycles in, 2030
plant metabolism in relation to, 3206, 3477
plant responses—*see also* Begonia, Chrysanthemum, *Kalanchoë*, Strawberry, Tomato *and Xanthium*, *under* physiology—
fruit trees, deciduous, 1118
ornamentals—
annuals and biennials, 1024, 2031
bulbs, tubers, etc., 2721
general, 3815w
herbaceous, 1026, 1723, 1778
succulents, 1023, 2024, 2734, 3816h
woody, 1025, 1758, 1759, 3804, 3805, 3814
various plants, 24, 2087e, 2627, 2639, 2941, 3679
Photoperiodism (*continued*)—
vegetables, 24, 495, 502, 1536, 1537, 2031, 2414, 2435, 3476, 3477
reversal of effect by far-red light, 3733
reviews on, 1028
rooting of cuttings affected by, 1758
sex expression affected by, 67k
and spectral region, 3090k
virus content of plants affected by, 3586
Photosynthesis, 36, 63, 66d, 403, 809, 921, 938, 1027, 1029, 1084e, 1085i, 1373, 1480, 2028, 2087x, 2087y, 2586, 2676, 2971, 3041, 3042, 3058, 3073, 3416, 3466, 3642
Phragmidium rubi-idaei, 1304
Phragmidium subcorticium, 2684
Phragmites communis, 666
Phragmites spp., control, 356
Phyllanthus emblica, 2671k
Phyllocactus phyllanthoides, 2677
Phyllocnistis citrella, 780
Phyllocoptes lycopersici, 1577
Phyllocoptes trotteri, 2709
Phyllocoptruta oleivora, 3856, 3861
Phyllostachys spp., bamboos, 670a
Phyllosticta coffeicola, 3943
Phyllotreta spp. on crucifers, 576k, 3451
Physalis peruviana, 845
Physalospora obtusa, 3147
Physiology, plant, books on, 975, 1978
Physiology, plant, role in fruit research, 2087o
Phytelephas macrocarpa, 2670
Phytolacca americana, 663
Phytomyza ilicis, 3722
Phytomyza rufipes, 576e
Phytoncides from plants—*see also* Ethylene emission—659, 3664m
Phytophthora—
cactorum, 347c, 1683, 1983, 2279, 2293, 2342a
capsici, 2554
cinnamomi, 236, 1788, 1795, 2770, 3892i
citrophthora—see under Citrus diseases, fungus, gummosis
faberi, 3915
fragariae, 293, 1201, 3285
infestans on tomato—*see* Tomato diseases, fungus, blight
megasperma, 2275
palmivora, 2842
parasitica, 606, 2395, 2578, 2615t, 2791, 2806
phaseoli, 462, 2450
porri, 2461
spp., unspecified, 566, 777, 3596
syringae, 1301, 2806
Phytotoxicity—*see* Spray injury *and also under* Fungicides, Herbicides *and* Insecticides
Phytotrons, 50, 1033
Picea excelsa, 1030
Pieris—
brassicae, 3449
rapae, 430, 3604p
spp., unspecified, 1445
Pigments—*see also* Chlorophyll—
anthochlor, 1783a

Pigments (*continued*)—
anthocyanin—
biosynthesis, 2027, 2029, 3018, 3169, 3510
as a pH indicator, 1085o
in plants, 242d, 577g, 1021, 1084h, 1084y, 1882, 1960j, 2762b, 3800, 3815o
carotenoid—*see also* Vitamin A—
biosynthesis, 3558, 3605o
light intensity affects, 3066
in plants, 18, 519, 1553, 3642, 3815e, 3871
flavonoid, in plants, 441, 1084y, 1863g, 2182i, 3090u
pelargonidin, 194
various, measurement of, 3196
various, in plants, 67j, 1783g, 2028, 3559
xanthophyll, 1084k
Pilea cadierei, 2681, 2682
Pimento (*Pimenta officinalis*), composition and processing, 3665
Pineapple—
composition, fruit, 2911
composition, leaf, 898, 2088s
diseases—
in Australia, 2915
cause uncertain, black spot, 2916
non-parasitic, fruit breakdown, 1999
non-parasitic, sun scald, 2914
flowering, treatments to advance, 842, 897, 1421, 1912, 1959e, 1960u
nutrition, 841, 898, 1913, 1999, 2831, 2911-2913
packing, 1959e
pests—
mealybug (*Pseudococcus* (*Dysmicoccus*) *brevipes*), 984, 1914, 1915, 2911
nematodes, 1916
scale (*Diaspis bromeliae*), 950e
planting, spacing, 841, 950a
processing, 2810
propagation, 950a
research in various countries, 1995, 4021
soil management, fumigation, 2912
soil management, weed control, 1391, 1999, 3364
storage, 1183, 1998
Pinus—
pinea, edible seeds from, 2234
spp., sawdust mulches from, 2062
spp., water relations, 1030
Pipecolic acid in plants, 2341p, 2634
Piper—*see also* Pepper, black—spp., various, 1657, 3665
Pistachio—
growing in various countries, 1235, 2240m
propagation, vegetative, 241k, 999
pruning, 3150
Pistacia lentiscus (mastic), 2672h
Pittosporum—
spp., diseases, 3815m
spp., propagation, 725
tobira, 663
Planococcus kenyae, 3945
Plant(s)—
analysis, symposium on, 4004
Plant(s) (*continued*)—
breeding—*see* Breeding *and under separate plants*
distribution, analysis of, 3029
introduction service in the U.S.A., 2087q
pathology, a book on, 4010
physiology, books and reviews on, 975, 1978, 2087o
protection in various countries, 346t, 346u, 950u, 1371s, 3024b, 3024e, 3337w
protective chemicals, list of certified, 3337g
useful, descriptions of, 3007
Plantation, crops, production and trade, 840
Planting—*see also separate crops*, Machines *and* Replanting—
time and motion studies, 420, 3564
transplanting—
growth stimulation by chemicals, 551
plant reactions to, 3623
root treatment for, 2902
young trees and plants, 1808
Plasmodiophora brassicae, 576o, 1518, 2332, 2386, 3440-3442, 3446, 3447
Plasmopara viticola—*see* Vine, diseases, fungus, downy mildew
Plastic—
coatings for winter protection of evergreens, 1754
films for—
covering banana bunches, 1871
fumigating plants or soil, 788, 1066, 1071, 1950
mulching crops, 576n, 2512, 3465, 3572, 3604i
packaging fruit and vegetables, 161, 166, 801, 1163, 1181, 1182, 2486, 3021, 3173, 3174, 3189a, 3427
packaging plant material, 687, 1808, 3730
plant propagation, 718, 743f, 1756, 2109, 2700, 2771
protecting crops, 2490, 3465
storing—
fruits, 1861, 1982, 3181-3186
rooted cuttings, 727
seeds, 750
vegetables, 493
as glass substitutes in frames and greenhouses, 52, 726, 1071, 1079, 1202, 1585 l, 1991, 2072, 2385, 2416
materials, horticultural uses, 66z, 67h, 1071
pipes, 1072, 1082
pots, 3745
Platanus spp., diseases and pests, 743h
Platyparea poeciloptera, 577n, 3431
Platyptilia carduidactyla, 3429
Platypus spp., on cacao, 3914
Plodia interpunctella, 1656
Plum (including prune and gage)—
climate—
air pollution, 1241, 1371v
heat injury, 3260
spring frost injury, 255
temperature responses, 2136
winter chilling requirements, 109

Plum—climate (*continued*)—
winter injury and hardiness, 256, 2262
composition, fruit, 179, 1158, 1187u, 2179
composition, leaf, 179, 180, 755, 2027, 2117
defoliation, artificial, 1113
diseases—
fungus—
Polystigma rubrum, 2292
shot hole (*Clasterosporium carpophilum*), 3282
silver leaf (*Stereum purpureum*), 346k
storage, bruising affects, 3188
virus—
leaf-margin scorch, 1270
line pattern, 1278, 3266
marginal leaf scald, 3337h
ring pox and/or spot, 2266, 2267
flower(ing)—
bud initiation and development, 1113, 2136
nectar production, 1128
time of, 2182h
fruit—*see also above*, composition, *and below*, marketing, packing *and* storage—
drop, factors causing, 1086
maturity tests, 181r
quality, factors affecting, 2158, 3188
size, factors affecting, 117, 1113
growing in various countries, 76, 77, 2182o, 2183j
marketing, 2182o
mutations, 2253
nutrition—
manuring and major elements, 1981, 1998, 2155, 2182s, 3189p
minor elements, 250, 2248
salt injury and tolerance, 2117
packing and grading, 2178, 2182o, 3175
pests—
aphids, 1363, 2303
curculio (*Conotrachelus nenuphar*), 3304
leaf-hopper (*Ceresa bubalus*), 1335
mites (various species), 319, 1320, 1363, 2297, 3338c
physiology—
hemicellulose biosynthesis, 180
light responses, 2027
polysaccharides biosynthesis, 179
translocation, 1353
water relations, 149
pollen development, 2136, 2182u
pollination, 117, 118, 1122, 1187l, 3190k
processing, drying, 77, 2181, 2182e
production and trade, 2183j
propagation—*see also below*, rootstocks—
by cuttings, 2104, 2107, 3112
by layering, 1103
on own roots, 93
pruning, 1086
research in India, 4021
rootstocks—
description and classification, 2122
drought resistance, 1112
hardy, 256
Plum—rootstocks (*continued*)—
identification in nursery, 2181p
in various countries, 1998, 3121
seed hardening, 2027
soil management, irrigation, 2158
soil management, weed control, 357, 3352
storage, 1999, 2179, 3188
varieties—
a book on, 2999
disease resistance, 3337h
Early Laxton, 117
glasshouse, 1987
identification, 2182p, 2999
Požegača, 2179
in various countries, 72, 996, 1187q, 3121, 3189g
Weatherspoon, 3189t
Plumeria acutifolia, 742i
Plusia chalcytes, 2606
Plutella maculipennis, 430, 431
Poa annua, 3352, 3354, 3815s
Podophyllum peltatum, 1048
Podosphaera leucotricha, 3275
Pogonomyrmex spp., harmful ants, 1859, 3855
Pogostemon heyneanus, 1671
Poinsettia—
diseases, 676, 1709, 2760, 3721, 3805
growth substance responses, 739, 2035, 3717
nutrition, 3806-3808
photoperiodic and temperature responses, 3804, 3805
propagation, vegetative, 993, 2759, 3804, 3806
Poison ivy (*Rhus radicans*), 1380, 1381, 2360, 3407e
Poisonous plants in Australia, 963
Poland, pomological research, 69, 2182x
Polarity in woody plants, 2772
Polistes spp., beneficial wasps, 610, 2610
Pollen—
antibiotics in, 2656
dead, parthenocarpy induced by, 3225
development in plums, 2136, 2182u
development, temperature affects, 2724
germ pores, number of, 3223
germination and tube growth—
biochemistry of, 1084j
boron and other nutrients affect, 2590, 3077, 3910, 3992
climatic factors affect, 1482, 2129
electric potentials affect, 2725
flower age affects, 2502
growth substances and vitamins affect, 3992
media for, 1497, 1713, 2725
physiological aspects, 2756, 3077
in solanaceous plants, 1714
sprays affect, 2907
time needed for, 2188
radioactive, 2590
storage and longevity, 84, 518, 883, 2501, 2907, 3929
treatment with X-rays, 2762f
Pollination and fertilization—
artificial, 518, 528, 772, 1127, 1208, 1209, 1688, 2182n, 2500, 2505, 2907, 2992

Pollination and fertilization (*continued*)—
by insects, bees—*see* Bees
by insects, various, 3889
interspecific, 1677, 3459
of plants—
in cages, 65, 491
fruit and plantation crops, evergreen dicotyledons—*see also* Cacao, Citrus *and* Olive—883, 884, 1792, 1954, 1998, 2886, 3889, 3929
fruit and plantation crops, evergreen monocotyledons, 3992
fruit trees, deciduous—*see also* Apple, Cherry, Peach, Pear *and* Plum—83, 119, 1127, 1187s
nut trees, deciduous, 1998, 2226, 2240a, 2240y
ornamentals, 2756
a review, 3089n
small fruits—*see also* Vine—2186, 2188, 3020
various, 1688
vegetables, 477, 491, 3605e
pollen mixtures aid, 1123, 1126, 3459
pollen source affects, 1123
seed germination affected by pollen parent, 1094, 1123
self-sterility, budding overcomes, 3912
self-sterility, physiology of, 2756
studies, methods for, 3030
sugar sprays to aid, 118
Polychrosis botrana, 1345
Polyembryony in plants, 3604a, 3876
Polygonum sacchalinense, 3066
Polygonum spp., control, 2353, 2380f
Polyphenols—*see also* Tannins—in plants, 181x, 577o, 951p, 1084h, 1881, 1882, 1960a, 2615q, 2641, 2969, 3090u, 3640
Polyphylla fullo, 322, 2307
Polyploidy—*see also* Colchicine—
detection of, 2240v
role in variety distribution, 1092
uses and effects, 1534, 1736, 2762a, 3240n
Polysaccharides, biosynthesis, 179
Polystigma rubrum, 2292
Pome fruits—*see also individual fruits*—diseases and pests in nurseries, 2242
Pome fruits, pruning, 2142
Pomegranate, bark composition, 3712y
Pomology on postage stamps, 1187e
Poncirus trifoliata, as a citrus rootstock—*see under* Citrus
Poncirus trifoliata × *Citrus sinensis* hybrid, 1801
Pongamia glabra, 3712s
Poplar—*see under Populus*
Poppy—
opium—
flower abnormality, 2672a
growth, tree competition affects, 2623
oil composition, 2671y
seed proteins, 2672b
oriental, varieties, 1987
Populus spp.—
climate, air pollution, 2752
Populus spp., (*continued*)—
destruction of undesirable, 2004
enzyme activity, 2133
frost damage, 2762c
pests, 742e, 1772, 1773
propagation, spray injury to cuttings, 1771
water relations, 1030
Portulaca spp., control, 379, 1387, 2368, 3357, 3359
Pot(s)—
algae controlled on, 3719
metal, 1757, 2763n, 3745
plants—*see also individual plants*—
nutrition, 2763n
root distribution, 3719
soilless culture, 1704, 2762q
transport, 2763k
plastic, 3745
soil (block), peat and turf, 956, 1418, 2386, 2403, 3438, 3563
Potassium—
absorption, factors affecting, 1372, 2038, 2059, 2588
application—*see also below*, nutrition, foliar—subsoil, 3134
bromide, growth stimulated by, 1596
contents of plants, factors affecting, 309, 3210
deficiency, wild plants as indicators of, 1020
determination, 1060, 2016, 2615r, 3089y, 3090b
nutrition—*see also individual crops under* nutrition—
boron in relation to, 3454, 3455
calcium in relation to, 455, 2768
disease susceptibility affected by, 2909
foliar, 898, 1049, 2056
magnesium in relation to, 1247, 2779
nitrogen in relation to, 455, 3952
plant analysis as a guide to, 861, 892, 3228, 3834
sodium in relation to, 17, 2768, 3757, 3839
water balance affected by, 2481, 3140, 3952
zinc in relation to, 3891
radioactive, 455, 1372, 2038, 2056
symposium, 991
Potentilla fruticosa, 1782 l
Potentilla repens, 2361
Pothos (*Scindapsus aureus*), 2681, 2682, 3809
Pratylenchus—
coffeae, 1504
penetrans, 306, 308, 1311, 1435, 1725, 2322
scribneri, 1312
spp., unspecified, 307, 2578, 3653
vulnus, 1312, 2748
Prays endocarpa, 782
Prays oleellus, 3886
Primula—
breeding and selection, 2763q
pests, 3746
pollen characters and germination, 1713, 2129
pot types for, 3745
species and hybrids, 2763q

Privet, leaf exudates, antibiotics in, 2657
Privet pests, 1761, 2686
Proceedings—
  Cacao breed. Conf., W.A.C.R.I., 3902
  Conf. on Oil Palms, Franco-British, 2889
  deutsch. Akad. LandwWiss., 982
  Easter School in agric. Sci., Univ. Nottingham, 3004
  international hort. Congr., Scheveningen, 3001
  international sci. Tobacco Congr., Paris, 1587
  Peruvian nat. Congr. agric. Sci., 981
  Western Canad. Soc. Hort., 4029w
Proceras spp., on sugar cane, 4021
Prodenia litura, 1594, 2606
Promecotheca spp., on coconuts, 1352
Propagation—*see also under plants and methods*—
  a book on, 3003
  humidification systems—*see* Cuttings, mist *and* Humidifiers
  vegetative—
    of fruits, nuts and ornamentals, 2182c
    histories of, 1988, 2110
    of mitotically unstable plants, 1189
    and regeneration, 93
Propane gas, plant responses to, 1081
Proteins, plant—
  biosynthesis and metabolism, 1084q, 1622, 2088i, 3069, 3090s, 3605b, 3641
  contents, growth substances affect, 2040
  contents in leafy vegetables, 2556y
  extraction and determination, 950f, 1014, 2591
  preparation of edible, 2667
Protoparce sexta, 1642, 2609, 2610
Protoparce spp., unspecified, 609
Prune—*see under* Plum
Pruning and training—*see also individual plants*—
  a book on, 4012
  fruit trees, 2141, 2142, 3150
  mechanized, 58, 181z
  methods, Ruzyně, 1137
  nomenclature, 2141
  nutrient translocation slowed down by, 132
  protection of workers during, 2223
  root, 2902
  small fruits, 2142
  summer, 3150
  time of, growth affected by, 2221
  wiring systems, 234
Prunings, disposal of, 10, 2224
Prunus—
  aequinoctialis, 2182i
  avium—*see also* Cherry—2133, 2182i
  besseyi, 1774
  cerasifera × apricot hybrid, 1122
  cerasifera seedlings, raising of, 1105
  glandulosa sinensis, 1103
  incisa, 2121
  kurilensis, 2121
  maximowiczii, 2182i
Prunus (*continued*)—
  mume, 755, 1144
  nipponica, 2182i
  padus, 2752
  salicina, 755
  serotina, 1020
  species, various—
    bark anatomy, 2182m
    diseases, virus, 2341m
    flower bud development, 2136
    as rootstocks for fruit trees—*see separate fruits under* rootstocks
    as soil potash indicators, 1020
  subhirtella autumnalis, 1103
  virginiana, 1020
Psalliota spp.—*see* Mushroom
Psallus ambiguus, 1334
Pseudaulacaspis pentagona, 1352, 1950
Pseudococcus brevipes, 1914
Pseudococcus spp., unspecified, 853, 881
Pseudomonas—
  gardneri, 3588
  lachrymans, 2421
  marginata, 702, 1732
  mors-prunorum, 2273, 3268, 3269, 3337z
  phaseolicola, 3059
  savastanoi, 2822
  solanacearum, 1056, 2528, 2556w
  spp., unspecified, 2874, 3539
  syringae, 276, 277, 1089
  tabacum, 1636, 2571, 2572
  tomato, 3588
Pseudoperonospora cubensis, 447, 1295, 1468, 2425, 3469
Pseudopeziza ribis, 291
Pseudopeziza tracheiphila, 1309
Pseudotheraptus wayi, 842, 3014
Pseudotsuga douglasii, 2062
Psila nigricornis, 3741
Psila rosae, 1459, 1521, 1522, 1585w, 3457
Psoralea corylifolia, 2624
Psylla—
  buxi, 1761, 3722
  mali, 1325, 3333
  peregrina, 3333
  pyricola, 2341u, 3321
Psylliodes spp., on crucifers, 576k
Puccinia—
  antirrhini, 693, 694, 1722, 2080
  carthami, 1696, 3707
  horiana, 3739
  iridis, 1735
  porri, 2461
Puerto Rico, tobacco growing, 3664i
Pulvinaria aurantii, 779
Pulvinaria maxima, 1922
Puya spp., chagual gum from, 1701k
Pycreus mundtii, 666
Pyralis farinalis, 1656
Pyrenochaeta terrestris, 1503
Pyrethrum—
  breeding, 1688
  flowers—
    irritant factor in, 2672g

Pyrethrum—flowers (*continued*)—
pollination, 1688
pyrethrins, 669d, 669e, 1701n, 2672d, 3698
growing in Kenya, 669 l
nutrition, 669e, 3896
soil management, weed control, 3365
Pyrilla spp., on sugar cane, 1352
Pyrus betulifolia, 2111
Pyrus ussuriensis, 93, 1105
Pythium—*see also* Damping-off—
aphanidermatum, 1355
debaryanum, 2569
spp., unspecified, 409, 1357, 2281, 2394, 2446, 2666, 2760
ultimum, 1748, 1982, 3760

Quarantine, plant, 3241
Queensland—*see also under* Australia—
Bureau Sugar Exp. Stats, A.R., 1925
Dep. Agric. Stock, A.R., 1999
nut—*see* Macadamia
Quercetin and related compounds in plants, 946
Quercus—*see also* Oak—*suber*, 1701g, 4029m
Quince—
composition, 247
diseases, 1264
frost susceptibility, 1103
leaf, chlorophyll synthesis, 247
nutrition, 247, 2248
pests, 1335
planting, 2182b
as a rootstock for apple, 1109
as a rootstock for pear—*see* Pear rootstocks
soil waterlogging responses, 3081
Quinine—*see also under* Cinchona—determination, 2672 l

Rabbit—*see under* Rodents
Radiation—
atomic, plants injured or contaminated by, 398, 596, 939, 3038
photosynthetically active, measurement of, 66d
thermal neutron, 2099, 2615u
Radioactive—
fungicides, 3868
herbicides, 1372
insecticides, 3892z
isotopes—
autoradiographic techniques, 67i, 2087z, 3061
a book on, 958
growth stimulated by, 3505
uses in agricultural research, 20, 95, 405, 615, 1010, 1559, 1988, 2503, 3037, 4029g, 4029i
uses in entomological research, 2841
metabolites, biosynthesis of, 63, 66j
Radioactive (*continued*)—
nutrients—*see also* Calcium, Carbon, Nitrogen *and* Phosphorus—455, 458, 763, 1226, 1372, 1563, 2038, 2056, 2057, 2967, 3062, 3065, 3417
sugars, 194
Radiographs—*see under* X-ray
Radish—
bolting, 495
breeding and selection, 494
composition, 3075
diseases, 496, 2473
growth substance responses, 2034
harvesting machine for, 2556q
nutrition, 404, 405, 1425, 1516, 2472, 3075, 3417
pests, 779
physiology, 495, 576s
radiation responses, 398
root—
development, 3528
pithiness, 494, 495
storage, 496
seed—
germination, 2466
production, 1513, 2034
treatment with insecticides, 779, 1506
soil management, weed control, 3387
spray injuries, 576w
Radopholus similis, 796, 1862m, 1862p, 2803, 2804, 3104, 3854, 3893i
Rain—*see under* Climate
Rambutan (*Nephelium lappaceum*), 984, 2989
Ramie—
climate, frost resistance, 3684
diseases, 3686
fibre characteristics, 3685
fibre extraction, 1701o, 3683
growing, mechanization of, 3683
harvesting, 640
nutrition, 3685
research in Malaya, 1995
Ranunculus spp., ornamental, diseases, 2328
Raspberry—*see also Rubus*—
breeding, 2194
climate, frost damage and resistance, 185, 3200
composition, fruit, 3212
composition, leaf, 3139
diseases—
cause uncertain, die-back, 3200
fungus, 1196, 1304, 3605a
virus, 268, 269, 3267
flower bud initiation, 3200
fruit colour measurement, 1197
fruiting habits, 3200
growing—
a book on, 2008b
in Great Britain, 3240u
in the U.S.A., 241r
leaf, virus inhibitor in, 1635
nutrition, manuring and major elements, 185
nutrition, minor elements, 1249
pests, 1196, 1348, 3605a
physiology, water relations, 1030

Raspberry (*continued*)—
planting, cutting back at, 2195
processing, 3212
propagation, sucker production, 2061
pruning, 2142
research in Holland, 4019
research in New Zealand, 1983
seed treatment, 3201
soil management—
irrigation, 1067
mulching, 1201, 2061
weed control, 357, 1379, 2003, 3605a
varieties—
in Canada and the U.S.A., 3, 1982, 2092
in Great Britain, 2000
Malling series, 1240w
Sumner, 242c
in various European countries, 1195, 2000
Rat—*see under* Rodents
Rauwolfia (*Rauvolfia*) spp., medicinal plants, 623, 624, 669y, 670h, 670i, 1668, 1669, 2625, 2671e, 2671h, 2671m, 3712b, 3712m, 3712n
Rebutinae, classification, 2762i
Red-currant—*see also Ribes*—
flower, nectar production, 1128
fruit drop, 3240k
hybrids, interspecific, 2184
nutrition, 1192, 3202
pruning, 2142
soil management, weed control, 357, 3352
varieties, 1191, 2000
Replanting—
deciduous fruit trees—*see also* Apple *and* Peach *under* planting—995, 2182b
evergreen fruit and plantation trees—*see also* Citrus *and* Coffee *under* planting—833, 1944
vines, 2268
Report(s)—*see also* Annual Reports, Proceedings *and* Yearbooks—
agric. Improvement Coun. England and Wales, 1979
biennial—
Argentina, Progr. Invest. agríc., 4029b
Hawaii agric. Exp. Stat., 4017
Kansas agric. Exp. Stat., 4029j
Storrs agric. Exp. Stat., Connecticut, 1003b
Commonwealth econ. Cttee, 662, 1984
hort. Marketing, Cttee on, 2083
int. Conf. on *Hyphantria cunea*, 2317
Progr. appl. Chem., 3022
Sci. Serv. Lab., London, Ont., 3013
Scottish hort. Res. Inst., 2095
Washington St. Coll. Res. Hort., 2003
Respiration—*see also individual crops under* physiology *and* storage—
flower, 3802
fruit, 171, 443, 444, 839n, 1554, 2140, 2173, 2174, 2177, 3171, 3890
plant, 36, 1029, 1480, 2587, 3648, 3707, 3988
root, 67c, 1691, 2589
seed, 577m
tissues, various, 1031
Reviews, book—
Anderson, H. W., Diseases of fruit crops, 953
Andrews, F. W., The flowering plants of the Sudan, Vol. III, 954
Arland, A., and others, Magnesium, a plant food, 3998
Bates, W. N., Mechanization of tropical crops, 1962
Beaumont, A., Diseases of garden plants, 955
Booth, C. O., An encyclopaedia of annual and biennial plants, 1963
Börner, C., and others (Editor, Blunck, H.), Handbuch der Pflanzenkrankheiten, Band V. Tierische Schädlinge an Nutzpflanzen 2. Tiel. Lieferung 4. Homoptera II. Teil., 2996
Bowman, F. T., Citrus-growing in Australia, 2997
Braun, H., and Riehm, E., Krankheiten und Schädlinge der Kulturpflanzen und ihre Bekämpfung, 3999
Broadbent, L., Investigation of virus diseases of brassica crops, 1964
Chandler, W. H., Deciduous orchards, 2998
Chase, J. L. H., and Pouncy, A. J., Soil block gardening, 956
Cobley, L. S., An introduction to the botany of tropical crops, 957
Comar, C. L., Radioisotopes in biology and agriculture, 958
Cox, E. H. M., and Cox, P. A., Modern rhododendrons, 959
Dermine, E., and Liard, O., Identification et description de variétés du prunier européen, 2999
Dorf, P., Liberty Hyde Bailey, 960
Edmond, J. B., Musser, A. M., and Andrews, F. S., Fundamentals of horticulture, 1966
Fernández de Bobadilla, G., Viniferas jerezanas y de Andalucía occidental, 961
Fourmont, R., Les variétés de pois (*Pisum sativum* L.) cultivés en France, 4000
Friedrich, G., Der Obstbau, 962
Galet, P., Cépages et vignobles de France. Tome 1. Les vignes américaines, 1967
Gardner, C. A., and Bennetts, H. W., The toxic plants of Western Australia, 963
Gault, S. M., Vegetables for garden and exhibition, 964
Genders, R., Soft fruit, 4001
Guinea, E., Manzanas de España: Asturias, 4002
Haarer, A. E., Modern coffee production, 1968
de Haas, P. G., Marktobstbau, 3000
Hadfield, M., British trees. A guide for everyman, 1969
Halliday, D. J., The manuring of sugar cane, 965
Harler, C. R., The culture and marketing of tea, 966
Heeger, E. F., Handbuch des Arznei- und Gewürzpflanzenbaues, 967

Reviews (*continued*)—
Hopkins, J. C. F., Tobacco diseases, 968
Imms, A. D. (Richards, O. W., and Davies, R. G.), A general textbook of entomology, 4003
Jensma, J. R., Cabbage varieties—Sluitkoolrassen, 969
Jex-Blake, A. J., Gardening in East Africa: a practical handbook, 4005
Kantorovič, A., The Timirjazev Academy [Russian], 970
Keegel, E. L., Tea manufacture in Ceylon, 971
Knott, J. E., Handbook for vegetable growers, 3002
Krümmel, H., Groh, W., and Friedrich, G., Deutsche Obstsorten, 85
Lecoufle, M., and Rose, E., Orchids, 1970
Levitt, J., The hardiness of plants, 972
Łucka, M., Truskawki, 187
McLean, R. C., and Ivimey-Cook, W. R., Textbook of theoretical botany, Vol. II, 973
Magill, P. L., Holden, F. R., and Ackley, C., Air pollution handbook, 4006
Mahlstede, J. P., and Haber, E. E., Plant propagation, 3003
Makins, F. K., Herbaceous garden flora, 1971
Owen, E. B., and Ashton, T., The storage of seeds for maintenance of viability, 974
Peairs, L. M., and Davidson, R. H., Insect pests of farm, garden and orchard, 1973
Rosenfeld, A. H., Sugar cane around the world, 1974
Rowe-Dutton, P., The mulching of vegetables, 4007
Rubcov, I. A., Citrus pests and their natural enemies [Russian], 2795
Ruhland, W., and others, Handbuch der Pflanzenphysiologie, Vols. I, II, III and VII, 975, 4008
Schindlmayr, A. (translated and edited by Jackson, A. A., and Jackson, J. P.), Useful plants, 3007
Schøyen, T. H., and others, Skadedyr og sykdommer i frukt- og baerhagen, 4009
Seitzer, J., Farbtafeln der Apfelsorten, 3008
Singh, L. B., and Singh, R. N., A monograph on the mangoes of Uttar Pradesh, Vols. I and II, 1975
Smith, K. M., A textbook of plant virus diseases, 1976
Stapp, C., Handbuch der Pflanzenkrankheiten, Band II, Lieferung 2, Bakterielle Krankheiten, 976
Thompson, L. M., Soils and soil fertility, 1977
Tressler, D. K., and Evers, C. F., The freezing preservation of foods, Vol. I, 3009
Tritton, S. M., Amateur wine making, 977
Wain, R. L., and Wightman, F., The chemistry and mode of action of plant growth substances, 978
Reviews (*continued*)—
Walker, J. C., Plant pathology, 4010
Wallace, T., and Bush, R. G. W., Modern commercial fruit growing, 979
Wellensiek, S. J., and Doorenbos, J., Grondslagen der tuinbouwplantenteelt, 1978
Western Canadian Society for Horticulture, Development of horticulture on the Canadian Prairies, an historical review, 4011
Wilde, S. A., and Voigt, G. K., Analysis of soils and plants for foresters and horticulturists, 980
Wood, J. P., Pruning, 4012
Wright, D. M., The Cox's Orange Pippin, 3010
Revista Agronomía del Noroeste Argentino, a new periodical, 1000
Rhabditis sp., in mushrooms, 3508
Rhagoletis pomonella, 3147
Rhagoletis spp., on cherry—*see* Cherry pests, fruit fly
Rhamnus prinoides, 1755
Rhamphus pulicarius, 3303
Rhizobium spp., for legumes, 1084x, 3485, 3486
Rhizoctonia—*see also* Damping-off—
lamellofera, 2910
solani—*see Corticium*
spp., unspecified, 562, 676, 1895, 3539
Rhizoglyphus spp., on gladiolus, 702, 1732
Rhizophidium spp., on ericas, 3796
Rhizopus—
arrhizus, 1733
nigricans, 2283, 3596
spp., unspecified, 2291, 3284, 3288
Rhizosphere—*see under* Root
Rhodesia and Nyasaland—
crops—*see also* Tobacco—3089x, 3711
flora, 1755
Minist. Agric., ent. Branch, work of, 1324
Rhododendron—*see also* Azalea—
a book on, 959
frost injury, 743c
growth substance responses, 2035
hybrids, 742u
nutrition, 740
propagation by seed, 1776, 2763p
propagation, vegetative, 1754, 2763p, 3810
soil—
composts for, 3018
management, weed control, 3357
pH responses, 740, 2761
water relations, 1030
wild, destruction of, 358, 3349
Year Book, R.H.S., 1775
Rhodolia cardinalis, 1862x
Rhodomyrtus macrocarpa, 1698
Rhodotorula glutinis, 1160
Rhopalosiphum insertum, 1325, 1326
Rhubarb—
composition, 3075
diseases, 489
nutrition, 3075, 3202
varieties, 2000

Rhus—*see also* Poison ivy—spp., tannin from, 3712g
Rhus spp., as weeds and their control, 1380
Rhynchophorus spp. on coconuts, 2855, 2856
Rhyparida discopunctulata, 2960
Ribes—*see also* Black-currant, Gooseberry *and* Red-currant—
americanum, 3742
sanguineum, 1987
spp., hybridization, 1782p
Riboflavin—*see under* Vitamin B
Ring culture method for glasshouse crops, 534, 2556b
Ringing—
bark rings to supplement, 95, 96
fruit trees—*see also* Apple—769, 2815, 3161
vines, 229, 3226
Road verges, plants and trees for, 724, 2183c
Roads, snowdrift barriers for, 3790
Rock breaking machinery, 1069
Rodent(s)—
control, general, 2680, 3325
control, repellents for, 1350, 2324
gophers, 1371 l
mice, 346n, 1349, 2323, 3338i
rabbits, 1350, 2324
rats, 346d, 2342t, 2948
squirrels, 2169
voles, 3325
Rodenticides—
carbon monoxide, 2323
diphenylacetyl indandione, 1349
endrin, 346n, 1349, 2342t
equipment for applying, 1371 l
phosphides, 346d, 1349, 3338i
a review on, 3022
Rodolia cardinalis, 3858
Root(s)—
adventitious, 2087u, 3076, 3198
anatomy, growth substances affect, 1041
branching, seed treatment to induce, 1105
bud formation on, 93
carbon dioxide assimilation by, 3632
cation exchange capacity, 66 l, 3716
crops—*see also separate crops*—
harvesting, 3090q
storage, 1183, 1981
yields, origin of seed affects, 2465
cuttings—*see under* Cuttings
electric oscillation generated by, 3090h
feeder, dying off, 2977
growth—
diurnal variations, 3820
factors affecting—*see also* Apple—3042, 3076, 3837
and geotropism, 3048
lateral primordia initiation, 3479
-substance relations in, 3089a
-inducing substances—*see under* Cuttings *and* Growth-substances
nematodes in, methods of determining, 3893g, 3893i
Root(s) (*continued*)—
nodule formation in leguminous plants, 1084x, 2557g, 3090d, 3484, 3485
nodule formation in non-leguminous plants, 2667
nutrient utilization by, 66f, 3936
protection in transplanting, 1808, 2902
pruning, 2902
regeneration of plants from—*see under* Cuttings *and* Propagation
respiration, 67c, 1691, 2589
secretions, 2436, 2437, 3068
strength, tensile, 2088k
systems—
micro-organisms in, 2580
nutrient and water transfer between adjacent, 42, 3043
photographs *in situ*, 1077
split, for experimental purposes, 594
of trees and shrubs, 2208, 2977, 3845
of vegetable crops, 2383
temperatures, 502, 2200
tissue culture—*see under* Tissue culture
Rootstock(s)—*see also* Interstocks—
effects on scions—
cold resistance, 1255, 2255, 3756
disease and pest resistance, 212, 751
drought resistance, 1112, 1216
dwarfing, 95, 1805
fruit—
characters and composition, 79, 210, 754, 2811, 3828
cracking, 2251
storage behaviour, 1806
yield, 103, 1111, 2116, 2211
mechanism, anatomical aspects of, 94
nutrient uptake and status, 214, 1762, 2117, 3133, 3839
physiological, 68, 249, 264, 594, 1216, 2028, 3636
rooting ability of cuttings affected by, 2105
transmission to seedling progeny, 692, 1593
wind damage resistance, 3831
herbaceous perennial, tuberous perennial scions on, 3756
for plants, herbaceous—*see also Nicotiana* spp. grafting *and* Tobacco *and* Tomato *under* rootstocks—various, 28, 1782s, 2028
for plants, trees and shrubs—*see* Almond, Apple, Apricot, Avocado, Cherry, Citrus, Peach, Pear, Plum, Rose *and* Walnut
-scion interrelationships—
alkaloids synthesis and distribution, 1593
comparative trials and general studies on, 99, 209, 211, 751, 752, 1217, 1983, 2112, 2113, 2118-2121, 3906
incompatibility, 97, 776, 1109, 1187o, 1215, 1982, 2114, 2240z, 3853
in inter-generic combinations—*see also* Citrus *and* Pear—1593, 2028, 2528, 3637, 3756

Rootstock(s)— -scion interrelationships (*continued*)—
reviews on, 181p, 3113
stem effect in, 210, 2115, 3829
virus diseases of Citrus—*see under* Citrus, diseases, virus
woody, herbaceous scions on, 2528
Rosa—
canina, 1782a, 2738, 2740, 3713
damascena, 2742, 2744, 2745
dilecta, 3358
fortuneana, 2741
gallica, 722
indica inerme, 2740
indica-major, 3713
laxa, 3713
multiflora, 2741, 3713
odorata, 2741
pendulina, 1030
roopae, 2746
spp., fruits, vitamin C in, 1093, 2746
spinosissima, 2746
Rose—
Annual, nat. Rose Soc. G.B., 2736
breeding and selection, 3713
climate—
frost responses or protection, 3781
light responses, 25, 2742
rain damage, 717
temperature responses, 2742, 3777
winter injury, 1753
diseases—
bacterial, 723, 3779
fungus, 717, 719, 1708, 1751, 2275, 2684, 2747, 2763i, 3780-3783
in various countries, 742o, 1706, 3815g
flower(s)—
bud initiation and development, 2742, 3778
cut, fumigation of, 1712
cut, senescence, chemical changes associated with, 3785
rain resistance, 717
fruit composition and utilization, 1093, 2746
growing—
under glass, 3777
under mist, 720
in various countries, 715, 1782u
growth, growth substances affect, 3717
nutrition, carbon dioxide, 25
nutrition, nitrogen, 1703
oil, 722, 2743-2745, 2762n, 3786, 3787
pests—
beetles, 1786, 3723
mealybugs, 1712
mites, 677, 3781, 3782
nematodes, 2748, 2763m
thrips, 1712, 3784
in various countries, 3815g
physiology, 1353, 2742
planting, 1753, 3776
propagation—
by budding or grafting, 1752, 2739
by cuttings, 672, 1712, 2739
Rootstock(s)—propagation (*continued*)—
by marcotting, 718
pruning, 722, 3777, 4012
rootstocks, 1782a, 2738-2741, 3713
seed germination, 2738, 3775
soil management, mulching, 721, 1993
soil management, weed control, 3358
spray injuries, 2681
storage of plants, 719
varieties, 716, 717, 1093, 1751, 1993, 2737, 3786
Rosellinia necatrix, 2333
Rosellinia sp. on coffee, 1898
Rosemary, antibiotics in, 2655
Rosemaund exp. Husbandry Fm, N.A.A.S., guide, 4029p
Rosewarne exp. Hort. Stat., N.A.A.S., Rep., 2000
Rothamsted exp. Stat., A.R., 4023
Rotylenchus reniformis, 1916
Rubber—
analytical procedures, 2995o
plants—*see also* Guayule, Hevea *and* Koksaghyz—
Asclepias spp., 669r, 669u
Euonymus japonica, 669t
Ilex aquifolium, 669h
Parthenium glomeratum, 3712v
Research Bd, Ceylon, A.R., 900
separation by paper chromatography, 669j
Rubidium in plant nutrition, 1085f, 2056, 2059
Rubus—see also under Small fruits *and individual fruits*—spp.—
cytology, 2193, 3018
polyploidy induced, 2240v
seed treatment, 3201
taxonomy, 3240m
Rudbeckia, vitamin treatment, 1049
Ruellia spp., petiole abscission, 1042
Rumex obtusifolius, 3354
Russia—*see* U.S.S.R.
Ruta graveolens, 625, 669c
Rutabaga—*see* Swede
Ruthenium, radioactive, 2057, 3417

Saanichton Domin. exp. Fm, B.C., A.R., 997
Safflower—
breeding, 2665
diseases, fungus, 1696, 2449, 2666, 3707
growing in the U.S.A., 3706
leaf tissue culture, 1050
oil, 669v
physiology, respiration, 3707
soil management, weed control, 1398
varieties, 3706, 4021
Sage—*see Salvia cypria and S. officinalis*
Sagina procumbens, 742z
Sago palm, 3710
Sahara, crops, 452
St. John's wort (*Hypericum perforatum*) control, 2344
Saintpaulia—
chlorophyll breakdown, 2678
diseases, 1982, 2701

Saintpaulia (*continued*)—
light and temperature responses, 1027, 2678
nutrition, 3747
pests, mites, 2701, 3725
propagation, 2700
Saissetia nigra, 1352, 1922
Saissetia oleae, 1352
Salix spp., water relations, 1030
Salix triandra, cultivation, 669m
Salpiglossis sinuata, 1714
Salt(s)—*see also* Chloride *and* Sodium—
absorption and accumulation, physiological aspects, 3078
excess, bud burst advanced by, 3224
excess in soil, determination of, 1564
in irrigation water, 3840
tolerance and injury of plants, 743a, 1430, 2566, 3747, 3757, 3808, 3812, 3813, 3817, 3819
Salvia—
cypria, 1661
longistyla, 1778, 1779
officinalis, 3672
sclarea, 631
spp.—
ornamental, descriptions, 3815b
ornamental, propagation by cuttings, 2675, 2683
used as sage in ancient times, 1701b
Samanea saman, 2655
Samoa, Western, Dep. Agric., A.R., 4026
Sampling—*see* Statistical methods
San José scale control, 336, 3320, 3321
San Remo floric. Exp. Stat., A.R., 3713
Sanninoidea exitiosa, 332, 2306
Sansevieria growing in France, 1750
Sansevieria propagation, 641
Santalum spp., essential oil from, 2671b
Sapium biloculare, 2671g
Sapodilla (*Achras sapota*) rootstocks, 4021
Sapogenins in *Dioscorea floribunda*, 621
Saponaria multiflora, 3715
Saponins in *Thymus vulgaris*, 669o
Sapropel as a fertilizer, 3070, 3438
Sarawak Dep. Agric., A.R., 4029q
Sarawak, patchouli from, 1671
Sasa spp., bamboos, 1673
Sauropus androgynous, 2555
Sawdust—*see also* Mulching materials *and under* Cuttings, rooting media—as a soil amendment, 1062, 2062
Scale insects—*see also* San José *and other individual species under scientific names and also hosts*—control, 1711, 2762k
Schinus molle, 1699
Schlumbergera sp., abnormal growth of grafted, 2762y
Science Service Lab., London, Ont., Rep., 3013
Scientific Horticulture, 1955/56, 1988
Scilla maritima, composition, 670m
Scindapsus aureus, 2681, 2682, 3809
Scion rooting, 1804, 1879
Scirpophaga nivella, 2956
Scirtothrips dorsalis, 1920
Sclerophthora sp., on sugar cane, 2995i
Sclerotinia—see also Monilia—
fructicola, 1296-1298, 1357, 2283, 2288-2291
fructigena, 286, 2282, 2658
homoeocarpa, 1744, 3770, 3771
laxa, 286
libertiana, 1573
minor, 2275, 2484, 2485
sclerotiorum, 2451, 3495
spp., unspecified, 1283, 2341c, 3539
Sclerotium—see also Damping-off—*cepivorum*, 482, 2395, 2461
Sclerotium rolfsii, 567, 2333
Scolia ruficornis, 4026
Scorzonera, soil sterilization for, 1435
Scotland—*see also under* Great Britain—Dep. Agric., A.R., 4029r
Scotland, Dep. Agric., agric. Statistics, A.R., 3015
Scottish hort. Res. Inst., Rep., 2095
Scyphophorus acupunctatus, 642
Seaweed composition, 66w
Seaweed drying, 1700
Seed(s)—*see also* Cotyledons *and individual plants*—
age, plant yields affected by, 3462
ageing, physiology of, 3090f
antibiotics in, 657, 2655
-beds—*see also* Tobacco—weed control in, 3406
-borne diseases—*see also* Virus transmission—563, 1486, 1487, 2550, 2556i, 3523
coats, composition, 3069
colour, leaf characters related to, 2617
composition—
amyloids, 1053
carbohydrates, 1923
phenols, 3069
vitamins, 1693
distribution by birds, 3240h
dormancy, after-ripening and dormancy breaking—*see also below*, germination—37, 88, 89, 111, 182, 2034, 3201, 3690, 3793
drills, 2076, 2087n, 3084
drying, 3926
embryo—
culture, 88, 111, 742a, 1052, 1917, 2901, 3109, 3847
development in plants, 81, 2182f, 2188, 2501, 2722
grafting, 3637
endosperm development in apricots, 2182f
extraction from cactus fruits, 1749
-fruit relationship in pome fruit, 2131
germination—
age affects, 1474
biochemical processes during, 598, 1015, 3108
chambers for, 2900
environment of parent affects, 3690
fruit juice affects, 2053
growth substances affect, 3162

Seed(s)—germination (*continued*)—
heavy water affects, 3080
inhibitors, 182, 1085h, 1474, 2052, 2053, 3069, 3108, 3162, 3609
light responses, 436, 1413a, 1548, 1690, 3609, 3701
media, 1745, 3753
moisture content affects, 3611, 3926
pollen parent affects, 1123
salt concentration affects, 2566
soil—
atmosphere affects, 62, 2901
conditioners improve, 510
moisture tension affects, 1538
temperature responses, 84, 1413a, 1690, 2053, 2103, 2466, 2475, 2616, 2630, 2901
tests—*see below*, testing
of various plants, general trials and observations on, 1086, 2225, 3605f
growth substances in, 3108
identification, 3434
production—*see also* Lettuce *and* Onion—
crucifers, 576q, 1454, 1455, 1513, 3435
cucurbits, 576 l, 1471
growth substances aid, 2034
in Holland, 1084o
legumes, 576 l, 2556o
spinach, 1535
tea, 2994e
tobacco, 617s
tomatoes, 518, 576 l, 3553
quality—*see also below*, testing—2465, 3525
size, factors affecting, 2226, 3330
storage and longevity, 88, 597, 731, 750, 974, 993, 1495, 1511, 1781, 2392, 3611
testing in various countries, 617d, 2087h, 2103, 3024i, 3413, 3605f
treatment—*see also below*, vernalization—
with alcohol, 1054
with antibiotics, 2467, 3497, 3523, 3610
with bacteria, 3486
with calcium chloro-hypochlorite, 576a
with caustic soda, 1855
with electricity, 2079
with eosin, 1055
with ethyl ether, 3690
with fertilizers, 452, 2003
with fumigants, 3613
with fungicides and bactericides, 408, 409, 468, 482, 577a, 1059, 1487, 1488, 1834, 2392, 2445, 2446, 2550, 2556i, 2683, 3414, 3421, 3523, 3767, 3768, 3903, 3918
with fungicide and insecticide mixtures, 467, 2445, 3414
with gases, 1058
with growth substances, 1055, 1422, 1537, 2035, 2036, 2413, 2476, 3162, 3538, 3609, 3610
with hot or cold air, 1056, 1418, 1420, 1498, 2565, 2630, 3201, 3462, 3562, 3611, 3612
with hot or cold water, 1056, 1058, 1517, 1741, 2791, 3690, 3892i
Seed(s)—treatment (*continued*)—
with hydrochloric acid, 2525
with insecticides, 483, 779, 1437, 1568, 2393, 2445, 2462, 2463, 3414, 3451, 3501, 3521
by irradiation with gamma rays, X-rays, etc., 1545, 2615u, 2762e, 3701
by irradiation with ultrasonic waves, 2399
with methylene blue, 3609
pelleting, 483
with potassium compounds, 1596, 1855, 2630
with purine derivatives, 1527, 3537
seed coat removal or cracking, 1855
with sodium compounds, 555, 1690, 1855, 3201
with spores of fungi antagonistic to pathogens, 2394
stratification, 89, 1104, 1238, 2103, 2622, 2738, 3110, 3793
with sulphuric acid, 1057, 2630, 3201, 3775
with uranium salts, 3609
with vitamins, 1422, 3609
vernalization—*see also above under* treatment—
cold resistance of plants affected by, 3110
of plants—*see also* Temperature responses—
chenopodiaceous, 1536, 1537, 3550
composites, 502, 503, 2477
legumes, 450, 451, 1476
solanaceous, 3566
umbelliferous, 1509
various, 705, 819
reversal of, 1476
weight, pollen parent affects, 2226
Seira ferrarii, 612
Selenicereus sp., as a rootstock for other cacti, 1782s, 2762y
Selenium, radioactive, 3062
Senecio vulgaris, 3352, 3355
Senna—*see Cassia*
Septoria—
apii, 433, 2329
lycopersici, 557, 2542, 2543, 3597, 3598
petroselinii, 2275
Sesamum indicum (sesame) diseases, 2449
Setaria spp., control, 1404
Sex expression—*see* Flowers
Seychelles Dep. Agric., A.R., 3024h
Shaddock—*see under* Citrus
Shade—*see also* Light—
cloth, spray retention by, 1641
nutrition and composition of crops in relation to, 499, 690, 2575
plant requirements and responses—*see* Cacao, Coffee, Tea *and* Tobacco *under* shade
trees and plants—
Albizzia spp., 2864, 2965
Croton haumanianus, 2832
disease resistance, 3914
Ficus spp., 2864
Grevillea robusta, 2864
Inga spp., 1867, 3930
Leucaena glauca, 846

Shade—trees and plants (*continued*)—
management, 2994d
pests, 1867
plantain, 2859
various, 2993v
Shallot—
bulb storage, 2464, 3409
diseases, 1503, 2461
growing in West Africa, 2557n
weed control, 374
Shea-butter tree (*Butyrospermum parkii*), 665
Sheep, weeds controlled by, 3403, 3404
Shelter belts—*see* Windbreaks
Shepherdia argentea, 263
Shikimic acid in plants, 2192
Shrubs—*see* Trees and
Sierra Leone Dep. Agric., A.R., 2008o
Silene gallica, 3365
Silicates in plant nutrition, 1716
Singapore botanic gardens, 2008p, 3894
Sisal—
fibre yield and quality, 3687
growing in East Africa, 3712o
nutrition, 3687, 3688
pests, 642
research in East Africa, 642
weed control, 3367, 3368
Skunk control, 2680
Slugs and their control, 743n, 1351, 2342h
Small fruits—*see also separate crops*—
growing, a book on, 4001
nutrition, 2003, 2054, 2146
packing containers, 1203
research in Holland, 1188
research, sampling methods for, 3191
soil management, mulching, 3079
soil management, weed control, 3407c
storage, 987
varieties, 2183d, 3101
Smog—*see under* Air pollution
Snails and their control, 1534, 2342h, 3892x
Snapdragon—
diseases—
fungus, 693, 694, 1709, 1722, 2080
non-parasitic, 1721
in the U.S.A., 1706
flower drop, 3718
flower, nectar production, 3748
flowering, data on, 693
nutrition, 3748
physiology, light and temperature responses, 1721, 3749
polyploid, 2763e
Snow barriers, trees and shrubs as, 3790
Sodium—*see also* Salts—
absorption, cations affect, 2059
contents of plants, factors affecting, 460, 2163
contents of roots, plant collapse associated with, 839g
determination, 2016, 2615r, 3090b
hypochlorite for seed treatment, 1690, 3201
nutrition of plants, 17, 44, 460, 538, 1563, 2474, 2768, 3452, 3747, 3812, 3839, 3938
plants injured by, 460, 1862o, 3840
Soft fruits—*see* Small fruits *and individual crops*
Soil(s)—
aeration, 536, 1144, 1607, 2588, 2589, 3727
analysis, a book on, 980
analysis as a guide to plant nutrition, 3006
atmosphere, apparatus for controlling, 62
auger, mechanized, 58
a book on, 1977
compaction, 152
conditioners and amendments—
Aerotil, 3487
Fertilaid, 3575
Flotal, 1742
HPAN, 510
Krilium (CRD-189), 673, 3487, 3615
plant composition affected by, 1064
reviews on, 67b
VAMA, 510
various, 1064, 1565, 3604b, 3727
vinyl acetate-maleic anhydride (CRD-186), 490
conservation, for tropical and subtropical fruit and plantation crops, 935
depth, phosphorus nutrition in relation to, 3615
drainage, a bibliography on, 2088c
fertility, indicator plants for, 74
heating with—
composted organic materials, 53, 1461
electricity, 1065, 1070, 1765, 2063, 2210
steam, 1083
waste heat from industry, 1418
micro-organisms, soil management practices affect, 2162
moisture—*see also below*, water—determination, 768, 1073, 2064, 2995d, 2995 l, 3614, 3892b
moisture, responses of nematodes, 3600
nitrification, factors affecting, 45, 1065
nutrients leaching of, 1224
osmotic pressure determination, 2088n
pH, disease responses, 2394, 2578
pH, plant needs and responses, 45, 2577, 2761, 2763o
potting, 2763n
productivity ratings, 150
shredding machine, 3815c
sickness—*see also* Replanting—253, 1252, 1253, 2321, 2341q
sterilization—*see also* Fumigation, soil—
by chemicals, 2088v, 3768
equipment, 48, 2070
a review on, 346r
by steam, 43, 48, 49, 554, 1252, 1561, 3356
various methods, 3089u
temperature, crop responses to, 108, 502, 1121, 2161, 2200, 2474, 3209
water regimes, controlled, for experimental work, 61
water table, crop responses to, 3840
Soilless culture—
aeration in, 98, 2966

Soiless culture (*continued*)—
of crops—
coffee, 950k
fruit trees, 98
ornamentals, 2692
pot plants, 1704, 2762q
sugar cane, 912
vegetables, 419, 539, 1417, 2418, 2496
equipment and containers, 41, 1704
nutrients for, 539, 2418, 2692
for nutritional studies, 455, 545, 634, 755, 864, 891, 914, 1060, 2153, 2480-2482, 2521, 2566, 2776, 2870, 2966, 3578, 3716, 3747, 3748, 3757, 3811, 3835, 3836, 3936, 3937, 3950, 3955, 3990
for raising seedlings, 419, 950k
reviews on, 40, 49, 1085d
Solanum—
carolinense, 3354
demerarense and *S. juripeba*, 2528
pseudocapsicum, 660
spp., various, 3404
Solar energy, utilization of, 5
Solar radiation, measurement of, 1075
Solenopsis geminata, 3855
Solidago spp., as weeds, 358
Sollya spp., propagation, 725
Somaliland Dep. agric. vet. Sci., A.R., 4029s
Sonchus spp., control, 3365
Sorbus aucuparia, 1030
Sorghum halepense, 369, 370, 993, 3370
Sorrel control, 2380e
South—
African Sugar Ass. Exp. Stat., A.R., 1926
African Sugar Yearbook, 3958
Australia—*see also under* Australia—Minist. Agric., A.R., 4029u
Pacific territories, crops, plantation, 868, 2829, 2994k
Spacing—*see individual crops under* planting *or* spacing
Spain—
crops—
fruit, 209, 838j, 1862j, 2206, 2828a, 3892m, 4002
nuts, 3240t
various, 2638
horticulture, 66x
Spanish Guinea, palm oil production, 950n
Sparganothis pilleriana, 1344
Spartium junceum, 3690
Spectrographic analysis and spectrography, 1085b, 2017-2019, 2615r
Speleological biology, 1007
Spergula arvensis, 3365
Sphaeroblasts on trees, 3878
Sphaeropsis dalmatica, 828
Sphaerotheca—
fuliginea, 2449
humuli, 3284, 3286, 3287
macularis, 1198
mors-uvae, 3337k
pannosa, 2747, 2763i
spp., unspecified, 2332, 3783
Spice(s)—
plants—*see also separate plants*—
a book on, 967
as intercrops, 1701a
in tropical and subtropical countries, 618, 669a, 4020
volatile oil determination, 669x
Spinach—
composition, 577c, 577d, 1009, 1015, 1539, 1540, 2389, 3548
diseases, fungus, 408, 2395
diseases, resistance, 1535, 3604o
flower bolting, 1536, 1537, 2491
growing in the U.S.A., 2556v
growth substances in, 3551
herbicide responses, 2351
hybrid vigour, 509
nutrition—
fertilizer placement, 481
manuring and major elements, 511, 993, 1425
minor elements, 511, 1427, 1540, 2388
sodium and salt tolerance, 44
pests, 2492
physiology—
enzyme activity, 1022
light responses, 1536, 1537
photosynthesis, 1084e
processing, 577c
seed—
germination, 510, 1538
production, 1535, 3604o
treatments, 408, 1536, 1537, 3550
soil management, soil conditioners, 510
soil management, weed control, 382, 993, 3387, 3390
varieties, 2491, 3549
Spiraea spp., light responses, 1702
Spiraea spp., undesirable, destruction of, 358
Spodoptera mauritia, 2732
Spongospora sp. on watercress, 1533, 1534
Sporendonema purpurescens, 1586k
Spray(s) (ing)—
application from aircraft—*see* Aircraft
concentrate and low-volume, 345, 1375, 1961a, 2277, 2331, 2341s, 2342 l, 2828h, 3275, 3281, 3327, 3337u
coverages or deposits, 1371k
economics, 71
equipment—
for experimental purposes, 997, 3407h, 3407j
high pressure, 3337r
knapsack, 3337p
low-volume, 71, 345, 1068, 1367, 1368, 1784, 2341r, 3327, 3337p
reviews on, 181z
testing, 1371k
for vegetables, 2556g
injury to plants—*see also separate plants*—
activated charcoal to reduce, 1469
assessment of, 2325, 2380d
factors affecting, 1369, 2127

Spray(s) (ing) (*continued*)—
materials—*for particular chemicals see* Acaricides, Fungicides, *etc.*
particles, studies on, 2530
penetration of shade cloth, 1641
programmes—
for citrus, 2828h, 3892w
for deciduous fruits, 243, 346p, 3326
for flowers, 1782w
residues on plants—*see also particular crops and types of sprays*—and in foods and their determination, 343, 417, 1360, 1585v, 2335, 2338, 3335, 3336
residues in soil, 411
Squash (*Cucurbita moschata* and *C. pepo*)—*see also* Cucurbits *and* Marrow—
flower sex, chemical differences related to, 441
growth substances affect, 1047
insecticides affect, 3470
nutrition, 3419
pests, 3470
varieties, 3
weed control, 3401
Squirrel—*see under* Rodents
Stachylidium theobromae, 2282
Staining, technique of biological, 1003e
Starch—
banana pseudostem as a source of, 3901
granules, morphology, 1585q
metabolism, 2030
Starter solutions, 551, 3565
Statistical—
analysis of plant distributions, 3029
analysis of trials, 702, 1013, 1088, 3027-3029, 3237, 3516
design of trials, 6, 478, 857, 1084w, 2012, 2287, 2480, 3030, 3090c, 3092, 3237, 3408, 3516, 3832, 3925, 3932
methods for—
comparing yields, 1088
estimating frost resistance, 2257
estimating frost risks, 1254
evaluating genetical progress in breeding programmes, 2993x
interpreting fumigation trials, 702
interpreting leaf-analysis data, 2594
pest and disease studies, 2341 l, 3246
sampling, 1585v, 3089v, 3191, 3516, 3554
tasting trials, 807, 1371c, 1439
variation, planting method affects, 3623
Stegobium paniceum, 1656
Steirastoma breve, 859, 2844
Stellaria media, 1380, 1387, 1394, 1395, 2365, 3352, 3354, 3357, 3359
Stem-builders—*see* Interstocks
Stemphylium radicinum, 1517
Stemphylium solani, 1572
Stephanoderes hampei, 3944
Stereum purpureum, 346k, 995, 1371x, 2281
Sterols, determination, 3712a
Stigma and style, fungus growth in, 1707
Stilbum flavidum—see Omphalia flavida
Stilpnotia salicis, 1773
Stock (*Matthiola* spp.)—
breeding and genetics, 742x, 3815x
diseases, 1706
flower(s)—
colour, genetics of, 3815x
double, origin of, 695
forcing, 3750
growth substance responses, 2034, 3717
light responses, 3750
Stockbridge House exp. Hort. Stat., N.A.A.S., 1085c
Stomatal movements, 3039, 3040
Stone fruits—*see also separate fruits*—
composition, 83
diseases, bacterial, 1371h
diseases, virus, 346j, 3264
nutrition, foliar, 2154
pollination, 83
soil management, mulching, 2003
Storage—*see also separate crops*—
of budwood, 1106, 1960z
buildings and chambers—*see also below*, gas—
air purification in, 1176
cold, 1068
cooling and pre-cooling systems—*see below*, cooling
fumigation or disinfection of, 1230, 1231, 2334
coatings, 886, 1183, 1844, 2427, 3426
cooling and pre-cooling methods and responses, 56, 168-170, 1074, 1187p, 2170, 2398, 2428, 3288
dips, 347j, 803, 805, 886, 1181, 1848, 3181
diseases and disorders, gamma radiation for controlling, 2283, 2809
ethylene used in—*see* Ethylene treatment
frozen pack, of fruit and vegetables, 1086, 1416, 2088r, 3009, 3212
gas, 444, 1167, 1173-1175, 1184, 1988, 2171, 2174, 2183f, 2187, 2746, 3177, 3178, 3187, 3240w
liners and bags, plastic—*see under* Plastic
losses of vitamin C in, 3168
pests and their control, 1656
physiological and biochemical aspects, 1554, 2174, 2177, 3166
of rooted cuttings, 727
trials, design and analysis, 3516
wraps, 163, 802, 1181, 2282, 3180-3182, 3596
Storrs agric. Exp. Stat., Connecticut, bienn. Rep., 1003b
Straw—*see also* Mulching materials—compost, 47
Strawberry—*see also Fragaria*—
breeding and selection, 1240s, 1988, 2240w, 2241i
climate—*see also below*, physiology—wind protection, 261
composition—
fruit and juice, 1187u, 2201, 3212
leaf, 1018, 2200, 3206
plant, 190, 3209
root, 2200

Strawberry (*continued*)—
diseases—
cause uncertain, black root, 2245
cause uncertain, root rots, 3284
fungus—
fruit rot or leak (*Rhizopus nigricans*), 2283, 3284, 3288
grey mould (*Botrytis cinerea*), 292, 2283, 2342k, 3284, 3286, 3288
leaf blight and stem rot (*Dendrophoma obscurans*), 3284
leaf spot (*Mycosphaerella fragariae*), 3284
leathery rot (*Phytophthora cactorum*), 2293
mildew (*Sphaerotheca* spp.), 1198, 2332, 3284, 3286, 3287
red core or red stele (*Phytophthora fragariae*), 293, 1201, 3285
root rots and wilt (several species), 294, 1305
general, 1371d, 3605a
virus, 3, 1202, 1272, 1273, 2269, 3240e, 3267, 3284, 3337j, 3338b
flower bud initiation and development, 3205, 3206
flower thinning, 2241h
forcing, 1199
fruit—*see also above*, composition, *and below*, processing—
ascorbic acid biosynthesis, 1016
calyx removal, machine for, 192
colour evaluation, 193, 1197
flesh firmness, 193
pigments, 194, 242d
ripening, factors affecting, 110, 3211
size, growth substances affect, 3211
storage, 1988, 3212, 3288
yield, virus infection affects, 1272
growing—
a book on, 187
in Canada, 3207
in Great Britain, 241q
growth—*see also above*, flower bud, *and below*, runner—root temperature affects, 2200, 3209
herbicide injury, 350, 1379
hybridization, vegetative, 2196
leaves, virus inhibitor in, 1635
nutrition—
foliar, 1200
manuring and major elements, 997, 1200, 2062, 2201, 2202, 3148, 3210
minor elements, 2245, 2247
soil temperature affects, 3209
pests—
aphids (*Pentatrichopus fragaefolii*), 2269
general, 2341b, 3605a
ground beetles (various species), 2305
leaf roller (*Ancylis comptana fragariae*), 334
mites (*Tarsonemus* and *Tetranychus* spp.), 1321, 3602
nematodes, 3, 308, 346m, 2342q
pyralid moth (*Sparganothis pilleriana*), 1344
Strawberry (*continued*)—
physiology—
photoperiodic and other light responses, 3205, 3206
temperature responses, 1200, 2200, 3205
water relations, 1030, 3148
planting—
stock, packing and storage, 2197, 3730
stock, production, 186, 1202, 3240r
systems, 1993, 2198, 2199, 2241h, 3208
processing, 192, 3212
root temperature, growth affected by, 2200, 3209
runners—*see also above*, planting stock—
formation—
growth substances affect, 190, 191, 1993, 3211
temperature affects, 3209
virus infection affects, 1272
removal, 241c
soil—
management—
cover cropping, 4019
irrigation, 1067, 2199
mulching, 1201, 1993, 2062, 4019
weed control, 349-352, 993, 1379, 1380, 1981, 2371, 3353, 3605a
temperature responses, 2200, 3209
spray residues on fruit, 1376, 3336
varieties—
Cambridge types, 3203
in Canada, 997
disease resistant, 1198
in European countries, 189, 1585c, 2000, 2240n
Glasa, 2240d
in Japan, 3240q
Northwest, 242b
Paget Beauty, 242c
Sonjana, 241a
Talisman, 188
in the U.S.A., 1240b, 1240s, 1993, 2092, 2556h, 3020, 3204
in the U.S.S.R., 2240w
wild, as a soil potash indicator plant, 1020
Strelitzia reginae, 1741
Streptocarpus spp., pigments, 1021
Streptomyces spp., antibiotics from, 465
Striga gesnerioides, 579
Stromatinia gladioli, 1732
Strontium in soils and plants, 398, 405, 1563, 2057, 3417
Strophanthus spp., seed glycosides, 669q, 3712u
Strumeta tryoni, 3873, 3892 l
Stylosanthes bojeri, 861
Stylosanthes guyanensis, 2980
Subtropical fruits in Taiwan, 1864
Succulence in plants, physiology of, 3774
Succulents, culture, 3714, 3816j
Succulents, physiology, 2088d
Sucrose, foliar application, 2943, 3076
Sucrose, nutrition of plants in solution cultures, 614, 1024

Sudan, crops, 3996x
Sudan, flora, 954
Sugar(s)—*see also individual sugars*—
Association Handbook, British West Indies, 906
cane—*see* Sugar-cane
determination and separation, 951s, 1185, 1902, 1960w, 2023, 2615m, 2618
Exp. Stats, Queensland Bureau of, A.R., 1925
in fruit, 1185
Ind. Res. Inst., Mauritius, A.R., 3959
in plants, insecticides affect, 3530
radioactive, 1016, 1017, 3870
sprays to attract bees, 1125
Year-book, South African, 3958
Sugar-cane—
bagasse, 4013
books and reviews on, 965, 1974, 3960, 3996t
breeding—
in Argentina, 3996j
in Barbados, 907, 3997p
general aspects and methods, 3963, 3996k
in India, 3997i
in South Africa, 3961
statistical procedures for, 2012, 2993x
climate, wind injury and its prevention, 950x, 3975
composition—*see also below*, juice *and* sucrose—
carbohydrates, 66w, 1941
fibre, 2995s
organic acids, 950g, 950v, 2994u
various elements, 3972
diseases—
bacterial, gumming disease (*Xanthomonas vasculorum*), 1938
bacterial, leaf scald (*Xanthomonas albilineans*), 1960d
cause uncertain, leaf yellowing, 951m
cause uncertain, spike, 2995b
fungus—
pineapple disease (*Ceratostomella paradoxa*), 852, 911, 2951
sclerophthora disease, 2995i
smut (*Ustilago* spp.), 2993k
stem rot (*Marasmius sacchari*), 2952
varietal resistance, 3977
virus—
chlorotic streak, 2944, 3976
mosaic, 926, 927, 1937, 3977
ratoon stunting, 909, 951z, 1934-1936, 2945-2949, 2995e
yield responses as compared with healthy cane, 2944
economics, 3997h
field trials, design, 2012
flowering and its control, 924, 2941
growing in—
the British West Indies, 2993y
Hawaii, 929, 3997g
India, 951i, 1960 l
Latin American countries, 929, 981, 3997t
Puerto Rico, 3997h
the U.S.A., 929
Sugar-cane (*continued*)—
growth—*see also below*, physiology *and* ratooning—
growth substances affect, 923, 2035
sulpha drugs affect, 925, 3973
tillering, 2930, 2931
harvesting—
burning to assist, 1941, 3979
high *vs.* low cutting, 1942
machinery and equipment, 929, 930, 1943, 1960y, 3996v
storage after, 931
sucrose losses during, 2957
juice—*see also above*, composition—analytical studies, 2994u
juice quality, factors affecting, 925, 1941, 2953, 2954, 3979
leaf removal, sucrose affected by, 924
leaf sheath, crop logging, 913, 914, 2994a
machinery—*see also above*, harvesting—951j, 2380i, 2926, 2993g, 2994t, 3996w
nutrition—
a book on, 965
calcium, 920, 2831
copper, 1933
factory wastes for, 915, 4013
fertilizer placement, 916, 3971
foliar application, 918, 919, 2943
leaf analysis a guide to, 3966, 3967
manuring and major elements in general, 951a, 1929-1931, 1959w, 2935, 2936, 2994m, 3968, 3997m
molasses for, 2943
nitrogen, 914-918, 951r, 1084b, 1932, 1959v, 2929, 2936-2939, 3969-3972, 4013
phosphorus, 920, 950z, 2940
potassium, 915, 919, 950z, 2940, 3969
stalk analysis a guide to, 3967
varietal differences in response, 1928
pests—
aphids (*Hysteroneura setariae*), 927
borers—
Diatraea spp., 2953, 2954, 3979
Metamasmius hemipterus, 2954
Scirpophaga nivella, 2956
unspecified, 1959q, 3965
chafer beetle (*Cochliotis melolonthoides*), 928
control, biological, 928, 1352, 1940, 2954
control, chemical, 844
frenchi grub (*Lepidiota frenchi*), 1939
froghopper (*Aeneolamia varia saccharina*), 3979
grasshoppers, 3978
greyback cane beetle grub (*Dermolepida albohirtum*), 1939
leafhoppers (*Pyrilla* spp.), 1352
mealybugs (various species), 1926, 3965, 4013
Opsiphanes sp., 2955
scales, 3965
whitefly (*Neomaskellia bergii*), 1940
yield reductions due to, 2953

Sugar-cane (*continued*)—
physiology—
physico-chemical properties, 2939
photoperiodic responses, 2941
photosynthesis, 921
a review on, 3960
water relations, 921, 2933, 2995c
planting—*see also below*, setts—
machines, 2994t
spacing, 2930
time of, 3976
ratooning, 1934
research in—
Australia, 1925
the British West Indies, 4013
Ceylon, 984
Hawaii, 1924, 3997g
India, 4021
Mauritius, 3959
Puerto Rico, 908
South Africa, 1926
the U.S.A., 2924
root systems, 1927, 2932
setts—
germination, factors affecting, 910, 1926
treatments—
fungicide and insecticide, 911, 2951, 3965
heat, 909, 910, 926, 2947-2950
soaking in fertilizer solutions, 912
soil—
management—
cultivation—
economics of mechanized, 951j
furrowing, 950z
subsoiling, 2929
irrigation, 2934, 2994a, 2995c, 2995d, 2995 l
rotations, 952b
trash disposal, 1960i
weed control, 367-369, 844, 993, 1392, 2367-2370, 2372, 2380c, 2380i, 3369, 3996w
pH range, 45
soilless culture, 912
stalk sampling, mechanical, 1960i
storage of harvested, 931
sucrose—
content—
effects of growth substances on, 923, 924, 2942, 3974
factors affecting, 368, 922, 924, 931, 3969, 3975
molasses sprays increase, 2943
losses, factors affecting, 2957
sampling and determination, 1960i, 1960w
variety(ies)—
in Australia, 1959h
B.34104, 1937
in Barbados, 2993y
collections, 2993s
disease resistance, 926, 1934, 1935, 1960d
fertilizer response variations, 1928
in Formosa, 2927, 2931
Sugar-cane—variety(ies) (*continued*)—
in Jamaica, 2995f
in Mauritius, 951w, 3962
N: Co. 310, 1938, 2995g
in the Philippines, 951a, 1929-1931, 2928
Q series, 1960d, 2995n
in South Africa, 3961
in the U.S.A., 950r, 993, 3996r
in various Latin American countries, 1959g, 3964, 3996b, 3996g
yield surveys, 2925
Sulpha drugs, growth responses to, 925, 3973
Sulpha drugs, translocation in plants, 15, 16
Sulphates, plants injured by, 2566
Sulphur—
absorption through bark, 3133
determination, 3090n
dioxide, use in cold storage, 1230, 1231, 2746, 3240b, 3240w
dioxide, injury to plants, 2014
foliar application, 3133
metabolism in plants, 3065
nutrition of crops—
coffee, 2870, 3937, 3938
fruit, 250, 2149, 3133
oil palms, 3950
tea, 2964
tobacco, 1605, 1632, 3616
vegetables, 2519
radioactive, 2038, 2967, 3062, 3065, 3868
shyness, leaf composition in relation to, 2127
toxicity, 3868
volatile, in onion bulbs, 1500
Sun burn injuries to plants and methods of protection, 2914
Sun light, measurement, 2081
Sunflower—
growth substance responses, 1038
light responses, 1027
as a rootstock for nasturtium, 2028
Surinam, crops, 745, 2993a
Surinam, Dep. Agric., A.R., 2008q, 3024j
Swede—*see also* Brassicas—
composition, root, 3530
diseases, 497
nutrition, 1516, 2388, 3078
pests, 497, 498, 3531
seed treatment, 3414
Sweden, crops, 181u, 1195, 2557c, 3604s
Sweet pea diseases, 1706
Sweet pea varieties, 1987
Swiss chard, photosynthesis, 36
Syngonium sp., spray injury, 2682
Syringa spp.—*see also* Lilac—descriptions, 742h

Tagetes—*see also* Marigold—*erecta*, 1725, 1783b, 3744
Tagetes minuta, 3365
Tahiti, crops, pepper, 3670
Taiwan, crops, fruit, 1864
Tamarind (*Tamarindus indica*), 1960j
Tanganyika agric. Corp., A.R., 2008r

Tanganyika, crops, sisal, 3712o
Tannin(s)—*see also* Polyphenols—
plants—
Phyllanthus emblica, 2671k
Rhus spp., 3712g
a survey of, 1701j, 3712x
virus inhibited by, 1635
Taphrina deformans, 2287, 2288, 3328
Taraktogenos kurzii, 664
Taraxacum kok-saghyz—*see* Kok-saghyz
Taraxacum officinale, 1380, 2656, 3066, 3354
Tarsonemus—
laticeps, 1740, 2727
pallidus, 677, 1323, 1711, 1769, 2679, 2701, 2710, 3725
translucens, 1989
Taste panels, estimation of food quality by, 343, 807, 1439, 2087a, 2382
Taxus spp.—
light responses, 1702
propagation by cuttings, 741
varieties, 743p
weed control, 1384
Tea—
Ass., Indian, Tocklai, A.R., 2962
breeding and selection, 1960b
climate—
cold resistance, 1946, 3985
temperature sums, 2972
yields related to, 2963
composition—
aldehydes, 2993h
caffeine, 2969
calcium oxalate crystals as an index to nutrient uptake, 936
changes after plucking, 3988
chlorophyll, 1960f, 3996m
flavonols, 946
mineral, 1947, 2968-2970, 3989
polyphenols, 951p, 1960a, 2969
standards for, 945
sugars, 2969
a definition of the word, 2958
diseases—
fungus—
black rot (*Corticium* spp.), 2980
blister blight (*Exobasidium vexans*), 940-942, 952c, 2981-2983, 2993w
brown root rot (*Fomes lamaoensis*), 2979
charcoal stump rot (*Ustulina zonata*), 2979
tarry root rot (*Hypoxylon asarcodes*), 2979
thread blight (unidentified), 2994x
economics, 952e
fumigation of bushes, 1950
growing—
a book on, 966
under glass or plastic, 3982
in Mauritius, 951b
in Mozambique, 2963
growth rhythms or phases, 3983, 3984
growth, shoot, factors affecting, 3985
leaf composition—*see above under* composition
Tea (*continued*)—
machinery, factory, 950w
machinery, field, 2978, 2994g
manufacture, a book on, 971
marketing, 966
nutrition—*see also above*, composition, *and* below, shade—
fertilizer placement, 2967
foliar, 937
manuring, 841, 932, 950o, 2965, 3981
minor elements, various, 2964, 2966, 3989
nitrogen, 937, 2964, 2966, 2993v, 3989, 3996s
phosphorus, 1948, 2966, 2968, 2969
potassium, 2966, 2969
pests—
ants, 2993o
leaf-eating caterpillar (*Homona coffearia*), 943
mite, red spider (*Metatetranychus bioculatus*), 2984
scale (*Pseudaulacaspis pentagona*), 1950
shot-hole borer (*Xyleborus fornicatus*), 943, 3986, 3987
physiology—
enzyme activity, 3988
phloem index, 936
photosynthesis, 938, 2971
respiration, 3988
translocation, 2967
planting—
methods, 872, 3981
replanting, 950 l, 1944
spacing, 933, 2965
plucking, 933, 1949, 1999, 2978, 2994g, 3985
production and trade, 2959
propagation by cuttings, 932, 934, 1945, 3980
propagation, nursery techniques, 2964
pruning and centering, 933, 2963, 2965, 2973-2976, 2993u
quality, factors affecting, 944, 2972
radioactive contamination of, 939
research—*see also above*, Ass., Indian—
Inst. Ceylon, A.R., 2961
Inst. East Africa, A.R., 932
Stats, Nyasaland, A.R., 933, 2964
in various countries, 984, 1989, 1995, 2960
root growth, 3983
root system, 2977
seed gardens, 2994e
shade—
nutrition in relation to, 933, 2965, 2993v
physiological effects, 938
tree species and their management, 2993v, 2994d
soil—
conservation, 935
management—
cover crops and green manures, 2980, 3981
cultivation, 2963
mulching, 932
rotations, 950 l
weed control, 371
requirement and types, 935, 950s

Tea (*continued*)—
spray residues, 944, 1951
uprooting old bushes, 950 l
Tecoma radicans—see Campsis
Telfairia pedata, 3711, 4021
Temperature(s)—*see also under* Climate, Heat, Meteorology, Soil *and* Thermoperiodism—
controlled, chambers for, 50, 67g, 1033, 2256, 2257, 3085
leaf, nutrient absorption affected by, 2056
leaf, stomatal movement affected by, 3039, 3040
low, chilling injury symptoms, 3831, 3935
measurement—
in buds, 2087 l
electronic thermometer for, 3089i
in fruits, 2087 l
in stacks of bagged produce, 2087p
responses—
of cuttings, 1718
of plants—*see also* Forcing, *and* Beans (*Phaseolus*), Cabbage, Chrysanthemum *and* Tomato *under* climate *or* physiology—
fruits and nuts, temperate, 107, 108, 197-199, 1200, 2128, 2130, 2136, 2200, 3129, 3130, 3205, 3209
fruit and plantation crops, tropical and subtropical, 764, 819, 1121
ornamentals, 698, 714, 1718, 1721, 1729, 1764, 1765, 1778, 1779, 2037, 2676, 2724, 2734, 2742, 3042, 3758, 3777, 3803, 3805, 3816h
reviews on, 2088u
various, 67k, 1600, 1666, 3467
vegetables, 401, 502, 503, 576s, 1443, 1477, 2414, 2474, 2478, 2489, 3476, 3511
root—*see* Root *and* Soil temperature
seed germination affected by, 84, 1690, 2103, 2466, 2475
sex expression affected by, 1039
sums—
apparatus for recording, 3089j
for codling moth emergence, 2314
for date palms, 812
for peas—*see* Pea, climate
for scab spore discharge, 1286
for tea, 2972
virus resistance affected by, 3493
Tenebrio obscurus, 1656
Tenebroides mauritanicus, 1656
Tephrosia vogelii, 3981
Tetraleurodes mori, 1761
Tetranychus—
altheae, 656
bimaculatus, 2298, 3693
carpini, 2301
deviatarsus, 3500
hicoriae, 318
marianae, 3602
sexmaculatus, 3856
spp., unspecified, 1196
Tetranychus (*continued*)—
telarius, 312, 316, 317, 573, 677, 1319, 2799, 3298, 3500, 3602, 3726, 3781
urticae, 1317
yumensis, 3856
Tetraploid plants—*see also* Polyploidy—838g, 1544, 2184, 3715
Tetrastichus giffardianus, 1862x
Tetrastigma lanceolarium, 1218
Tetrazolium and its derivatives—
biological applications of, 2088b
for detecting virus, 461
for testing viability, 2087h
Teucrium chamaedrys, 727
Thamnosphecia scitula, 1768
Theba pisana, 3892x
Theobroma spp.—*see also* Cacao—in Latin America, 1960p
Thermoperiodism in plants, 1084f
Thielavia sp. on tobacco, 2598
Thielaviopsis basicola, 1983, 2333, 2603
Thinning—*see* Growth substances, fruit and flower thinning
Thiouracil, virus inactivation by, 1655i, 2599
Thistle control—*see also individual species*—2361
Thomasiniana lavandulae, 3712t
Thrips madroni, 338
Thrips tabaci, 485, 486, 998, 1505, 2557m
Thuja spp., storage of plants, 727
Thymus vulgaris, 669o, 2617
Tigridia bulbs, storage, 1782e
Tilia europaea, 726
Tillandsia sp., epiphytes on cacao, 3913
Timirjazev Academy, Moscow, 970
Timor, crops, coffee, 2858
Tinantia fugax, 2037
Tissue—
analysis—*see also* Leaf—67e, 4004
culture, 38, 39, 599, 669z, 675, 1031, 1046, 1050, 1051, 1798, 1917, 2041, 2049-2051, 2088i, 2088m, 2088w, 2593, 2688, 2695, 3090d, 3639, 3664g
freeze-drying, apparatus for, 1084p
Tobacco—*see also Nicotiana*—
breeding and selection, 608, 617m, 617n, 1591, 1599, 1655m, 1998, 2563, 3606, 3664c, 3664o, 3664p
broomrape (*Orobanche* spp.) on, 1412
bulking, 3664h
climate—*see also below*, physiology—
artificial, for growth studies, 1600
hail damage, 2576
temperature responses, 1600
wind protection, 603
composition—*see also below*, curing, fermentation *and* physiology—
alkaloids, 1593, 1601, 1604, 1609, 1617, 1625, 1652, 1653, 1655o, 2588, 2592-2594, 2615f, 2618, 3620, 3628, 3633, 3635, 3636, 3664f, 3664t
carbohydrates, 578, 614, 2575, 2588, 2596, 2615m
data, interpretation of, 2594

Tobacco—composition (*continued*)—
factors affecting, 603, 984, 1588, 1598, 1600, 1613, 1616, 1645, 1647, 1653, 2588, 2595, 2596, 2612, 2615m, 3619, 3620, 3646
growth substances, 2615 l, 3647
mineral, 1610, 1611, 1613-1615, 1649, 2588, 2591, 2615r, 3616, 3663
moisture content, 1621
nitrogen compounds, 578, 614, 1014, 1609, 1652, 2575, 2591, 2593, 2594, 2596, 2599, 3619, 3641, 3646
nucleoproteins, 2591
organic acids, 1009, 1651, 1655p, 2596, 2599, 2615m, 3639
phenolic compounds, 617k, 2612, 2615q, 3640
pigments, 3642
regional differences in, 1655d, 2615a
of seeds, 597, 598, 2567, 2592
congress, international scientific, 1587
curing—*see also above*, composition, *and below*, fermentation—
air, 1645, 1646, 2595, 2596, 2612
barns, chambers and equipment, 2559, 2611
bulk method, 3659
chemical changes during, 616, 1645, 1652, 2595, 2596, 2613, 2615s, 3660
flue, 614, 1645, 2611, 2612, 3664a
mechanization of operations in, 2559
midrib removal prior to, 3660
mould prevention during, 3661
speed, effects of, 1646
sugar treatment preceding, 614
volatile substances lost during, 615
diseases—
bacterial, frenching (*Bacillus cereus*?), 578, 2601
bacterial, wildfire (*Pseudomonas tabacum*), 1636, 2571, 2572
a book on, 968
cause uncertain, green spot, 1655 l
fungus—
anthracnose (*Colletotrichum* spp.), 604, 605, 617n, 2559
black root rot (*Thielaviopsis basicola*), 2603
black shank or canker (*Phytophthora* spp.), 606, 1655m, 2578, 2615t
blue mould (*Peronospora tabacina*), 1637, 1638, 2597, 3651, 3652
brown spot (*Alternaria longipes*), 2559, 3664x
damping-off (*Pythium* and other spp.), 1594, 2569
frog-eye spotting (*Cercospora nicotianae*), 2570
moulds developing during processing, 3661
powdery mildew (*Erysiphe cichoracearum*), 1639, 2602
Thielavia basicola, 2598
wilt (*Fusarium* spp.), 1640
Tobacco—diseases (*continued*)—
general, in various countries, 1655j, 2597, 3664s
non-parasitic, trashy leaf, 2575
varietal resistance, 617n, 1982, 2571, 2615n, 2615t, 3644
virus—
brown rib, 2598, 2615n
cucumber mosaic, 2599, 3644
etch, 3648
green-spot, 617j
host's composition affected by, 1631, 3646, 3647
mosaic, 588, 617c, 617j, 617 l, 617t, 617u, 1567, 1622, 1632-1635, 1655f, 1655i, 1655q, 1655r, 2584, 2615c, 2615j, 2615p, 2615v, 3492, 3585, 3645, 3648, 3650, 3664u
mottle or pepper mosaic, 3664u
necrosis, 1635, 1655c, 1655s, 3645
potato Y, 2615n, 3649
rattle, 1655s
ringspot, 2600, 3645
shoestring, 3585
streak, 1262
economics, 1589, 1597, 3627, 3664i
fermentation—*see also above*, curing—
bacterial activity during, 617h
chemical changes during, 616, 1649-1654, 2613, 2614, 3664v, 3664w
methods of accelerating, 1647, 1648, 2614
field experiments, 3623
flowers, male sterility in, 617b
grading, 3664r
growing in—
India and Ceylon, 617f, 984, 2615i, 3664b, 3664 l
Morocco, 1588
Rhodesia-Nyasaland, 2558, 2559
various European countries, 617e, 2560
growth—
dwarfing, and factors causing it, 2025, 2568
malformations—*see also below*, leaf—600
measurement, 1619
neutron irradiation affects, 2615u
planting method affects, 3623
potassium bromide stimulates, 1596
soil pH affects, 2568
substances in—*see above*, composition, *and below*, physiology
harvesting, costs and work studies, 1597, 3627
harvesting, priming, 2559
leaf(ves)—*see also above under* composition, *and below*, quality—
ageing, 3642
colour, 1631
development, 595, 1620
malformations, insecticides cause, 586, 587
maturity, quality affected by, 1630
morphology and structure, factors affecting, 2573, 3619

Tobacco (*continued*)—
marketing, 617g
mitochondria, 3645
mutations, 617b, 3611, 3664m
nutrition—
boron, 592, 1617, 1618, 2559, 2585
calcium, 1616, 1632, 2831, 3616
chlorine, 1605, 1615, 2566, 3616
copper, 1617
fertilizer placement, 57, 3418
iron, 1617
magnesium, 1617, 1632, 3616
manganese, 1617, 2584
manuring and major elements in general, 579, 580, 589, 617a, 617p, 984, 1594, 1604, 1608, 1959w, 2054, 2559, 2581, 2582, 3617
molybdenum, 1617
nitrogen, 578, 1597, 1604, 1610, 1611, 1613, 1614, 1626, 2571, 2580-2582, 2615h, 3072, 3616, 3618-3621, 3642
phosphorus, 590, 2568, 2581, 2583, 3615, 3616
potassium, 591, 1610, 1611, 2571, 2581, 3616
salt tolerance and injury, 2566
sulphur, 1605, 1632, 2566, 3616
zinc, 1617
pests—
aphids, 984, 1641, 2607, 2615o
budworms (*Heliothis* spp.), 610, 2606, 3657
caterpillar (*Prodenia litura*), 1594, 2606
cigarette beetle (*Lasioderma serricorne*), 2615w
cutworms, 3654
flea beetle (*Epitrix hirtipennis*), 609
general, in Rhodesia, 1324
green June beetle (*Cotinis nitida*), 2608
hornworms (*Protoparce* spp.), 609, 610, 1642, 2609, 2610
loopers (*Plusia* spp.), 2606
mites, 1577
nematodes, 583, 607, 608, 1640, 1644, 1655g, 1655j, 1655m, 2578, 2604, 2605, 2615g, 3653
Oecanthus indicus, 2606
Phaneroptera furcifera, 2606
Seira ferrarii, 612
soil insects, various, 1644
stem borers (*Gnorimoschema* spp.), 2606
stem miner (*Faustinus cubae*), 3656
sugar cane beetle (*Eutheola rugiceps*), 611
wireworms, 613, 1643, 3654, 3655
physiology—*see also above*, climate, composition *and* growth—
carbon dioxide fixation, 3072, 3632
enzyme activity and distribution, 597, 598, 1022, 1623, 1624, 1650, 1655t, 2025, 2591, 3631
growth substance biosynthesis, 1038, 1567, 1631
light intensity responses, 1027, 1600, 1601, 2575, 3041, 3635
Tobacco—physiology (*continued*)—
lignin synthesis, 2615k
nicotine—
degradation, 3634
function, 3664t
and nornicotine biosynthesis, 1601, 1628, 1655a, 2592, 2593, 3628-2633, 3635, 3636
organic acids metabolism, 599, 3638, 3639, 3664k
photosynthesis, 36, 63, 1027, 2586, 3642
protein metabolism, 1622, 2088i, 3641
radiation responses, 596
radioactive metabolites, preparation of, 63, 66j
respiration, 2587, 2589, 3648
tissue culture, 599, 2051, 2593, 3639, 3664g
water relations, 1602-1604, 2574, 3614, 3634
planting—
dates, 579, 580, 3607
methods, 579, 3623
on ridges *vs.* flat, 3622
spacing, 589, 1597, 1598
pollination, 1655k, 1714, 2590
quality—
burning tests, 2561, 3662, 3663
factors affecting, 591, 1597, 1605, 1609, 1610, 1615, 1620, 1630, 1645-1647, 2559, 3618, 3652, 3663
forecasting, 1588
research in—
Indonesia, 1989
New Zealand, 995, 1983
Rhodesia-Nyasaland, 2559, 4022
Spain, 1655e
root(s)—
respiration, 2589
rhizosphere micro-organisms, 2580
systems, split, to study flooding effects, 594
as a rootstock for tomato, 1593, 3628
rootstocks—
Datura and *Petunia* spp., 3637
Nicotiana spp., 1625, 3636, 3637
tomato, 1593, 3628
seed—
-bed management, 579, 581, 582, 617o, 1411, 1594, 1595, 2559, 2568-2572, 2581, 2604
composition, 597, 598, 2567, 2592
embryo grafting, 3637
germination, 598, 2565-2567, 3609
oil, 3664d
production, 617s
storage, 597, 3611
testing, 617d
treatments, 596, 1596, 2565, 2615u, 3609-3613
shading, 578, 1641, 2575
soil—
aeration, 1607, 2588, 2589
depth, nutrition in relation to, 3615

Tobacco—soil (*continued*)—
management—*see also above*, seed-bed—
cultivation, 57, 579, 588, 1637, 3621, 3622
fumigation, 583-585, 606, 1644, 2569, 2597, 2603-2605
irrigation, 593, 617q, 1602, 1605, 1633, 2574, 3011, 3614
rotations and green manuring, 579, 580, 617p, 1609, 2579, 2604, 3622
soil conditioners, 3615
weeds and their control, 352, 579, 583, 584, 617q, 1411, 1413f, 1608, 2568, 2569
requirements and types, 45, 1610, 2577, 2578, 2615d, 3615
waterlogging or flooding, 594, 1606, 1607
spray(s)—
aerial application to shade-grown, 1641
fungicides and insecticides, 1655b
injuries, 586, 587, 1412, 3643, 3652, 3654, 3658
residues, 3652
stems—
histology, 3664j
manure from, 10, 1061
removal, 2559
suckers—
breeding and selection to reduce, 1592
chemical suppression, 579, 589, 601, 602, 1629, 2559, 3624-3626
quality affected by, 1630
topping, 617r, 1625, 1626, 2595, 2596, 2615b
varieties—*see also above*, breeding—
in Canada, 1982
collections, 1590
disease resistant—*see above*, diseases
in France, 3608
in Holland, 1585c
hybrid, male sterile, 3664o
hybrid vigour in, 2564
in Italy, 2595
in Japan, 1655n
of *N. rustica*, 2582
in the Philippines, 2561, 2562
in Rhodesia-Nyasaland, 580, 2559
in the U.S.A., 2615e
in the U.S.S.R., 1592, 1598
wrapper, 2562
Tomaspis saccharina—see Aeneolamia varia
Tomatine, properties, 521, 3328
Tomato—
antibiotic from, 3328
antibiotic injury, 576w
breeding and selection—
for ascorbic acid content, 3604y
for earliness, 1544
general, 576l, 2557f, 3020
radiation used in, 1545
for resistance to cracking, 3605h
for resistance to diseases, 577p, 577q, 1542, 1543, 2495
of tetraploids, 1544
broomrape (*Orobanche* spp.) on, 378, 2494
Tomato (*continued*)—
climate—
air pollution, 1566
cold injury to fruit, 3582
frost or cold resistance, 1420, 2556r
frost protection, 406, 3032
light and temperature responses—*see below*, physiology
lightning damage, 1036
virus symptoms affected by, 2524
wind protection, 2391, 2504
composition—*see also below under* nutrition—
flower, 1553
fruit—
alkaloids, 1593
calcium, 3583
carbohydrates, 3411
dry matter, 523, 3562
factors affecting, 555, 1409, 2507, 2515, 3402, 3557, 3571
organic acids, 523, 542, 3171, 3411, 3598
pigments, 3558, 3559
potassium, 3583
protein, 3411
sampling for, 3554
vitamins, 1015, 1562, 2517, 3555, 3556, 3598
leaf, 541, 1060, 1295, 1558, 2556r, 3060
plant, 549, 1015, 1560, 1561, 2389, 2518, 2519, 3075, 3562, 3578, 3579
shoot, 521
diseases—
bacterial—
canker or wilt (*Corynebacterium michiganense*), 2557v, 3588
Pseudomonas gardneri, 3588
spot (*Xanthomonas vesicatoria*), 557, 2328, 2529, 3588
spotting (*Pseudomonas tomato*), 3588
wilt (*Pseudomonas solanacearum*), 2528, 2556w
cause uncertain, internal browning or gray wall, 2527, 3584
control, general, 2542
fungus—
anthracnose (*Colletotrichum phomoides*), 604, 3589, 3590
blight, early, target spot, or collar rot (*Alternaria solani*), 1570, 2275, 2328, 2530, 2543, 2556s, 3059, 3329, 3594, 3604k
blight, late (*Phytophthora infestans*), 557, 1295, 1357, 1542, 2328, 2539-2543, 3594
buckeye rot (*Phytophthora* spp.), 566
damping-off (various organisms), 410
foot rot (various organisms), 576i
fruit rots—
Corticium (*Rhizoctonia*) *solani*, 562, 3595
Phoma or *Phomopsis* spp., 2328, 2424, 2541, 2542

Tomato—diseases—fungus—fruit rots (*continued*)—
Rhizopus nigricans, 3596
Fulvia fulva, 2275
grey mould (*Botrytis cinerea*), 558-562, 2531-2533
leaf—
mould (*Cladosporium fulvum*), 1571, 2080, 2328, 2531
spot, grey (*Stemphylium solani*), 1572, 2543
spot (*Septoria lycopersici*), 557, 2328, 2542, 2543, 3597, 3598
Sclerotinia libertiana, 1573
Sclerotium rolfsii, 567
stem rot (*Didymella lycopersici*), 563, 564, 1543, 2534, 3591
wilt—
Fusarium bulbigenum=*F. oxysporum* f. *lycopersici*, 1569, 2535-2538, 2547, 3592
polyphenol oxidation in relation to, 577o
toxins, 553, 2498, 2538, 3560, 3577
Verticillium albo-atrum, 2544
non-parasitic—
blossom-end rot, 546, 2520, 3583, 3604m
cloud and/or blotchy ripening, 538, 2521
excess soluble salts cause, 1564
general, 2523
resistance—*see also above*, breeding, *and below*, varieties, disease resistant—
fungicides reduce, 2532
growth substances affect, 2534, 3592
X-rays affect, 3592
virus—
aucuba mosaic, 3420
complex, 3585
insecticides to control, 1568
new, 1585h
potato X, 3420
rosette, 3585
seed-borne, therapy, 555, 2525
shoestring, 3585
spotted wilt, 1567, 3492, 3586
streak, 2524, 2525
tisis, 576b
tobacco etch, 577q
tobacco mosaic, 555, 577p, 577q, 2524, 2526, 3420, 3584, 3585
economics, 1586g
flower—
drop, 1552
parts, variations in the number of, 3561
production, factors affecting, 523, 524, 1550-1552, 2556z, 3056, 3566, 3567
fruit—*see also above*, composition, *and below*, harvesting, physiology, spray residues *and* storage—
bruising, 3171
colour, factors affecting, 571, 3581
cracking, 1982, 3605h
development, 1552, 3569
drop, 523
Tomato—fruit (*continued*)—
locules, variations in the number of, 3561
quality, factors affecting, 538, 995, 2328, 2500, 2510, 2543, 3402, 3581
ripening, 571, 1554, 3556, 3571, 3582
sampling, 3554
set and parthenocarpy, 529, 530, 558-560, 1045, 1557, 2034, 2500, 2504-2506, 2508, 3056, 3225, 3568, 3570, 3605n
size, factors affecting, 2500, 2508, 2541, 3565, 3570
weight, 2500
yield estimation, 1552
yield, factors affecting, 523, 2526, 2542, 2543, 3565, 3580, 3594
glasshouse construction, 1585 l
growing—*see also below*, ring culture—
in the Cook islands, 3605 l
in European countries, 522, 2493, 2557h
ring culture, 534, 2556b
under glass, 2556p
in the U.S.A., 2556c
growth—*see also below*, root—
axillary shoots, 2499
substances in, 1038, 1567
substances responses—*see also above*, fruit set, *and below*, herbicide—531, 532, 995, 1043, 1045, 1047, 1421, 1569, 2034, 2035, 2043, 2507, 2534, 3020, 3045, 3056, 3059, 3565, 3568, 3569, 3571, 3592
hairs, glandular, aphids affected by, 1578
harvesting, 570, 1584
herbicide responses, 1374, 1409, 2350, 2351, 2371, 3402
hybrid(s)—*see also above*, breeding—
interspecific or intergeneric, 2495, 2503
seed production, 518, 3553
vegetative, 2494, 2495, 2503
vigour, 2556d, 2557f, 3018, 3553
illumination—*see below*, physiology, light
leaf development and anatomy, 577i
mutants, 3018
nutrition—
aluminium toxicity, 2388
arsenic toxicity, 849
bacterial fertilizers, 2386, 3574
boron, 404, 544, 2482, 2517, 2831, 3075, 3581
bromine, 547, 2516
calcium, 405, 545, 546, 1563, 2520, 3075, 3581, 3583, 3604m
carbon dioxide, 25, 403
chlorine, 547, 2516, 3419
cobalt, 2922
copper, 1560, 2515
deficiency symptoms, 3576
excessive, 1564
foliar, 540, 541, 544, 546, 548, 2056, 2520, 3489, 3581, 3604m
iron, 553, 1560, 2515, 3060, 3577
in irrigation water, 538, 3580
magnesium, 548, 1563, 2831, 3581
manganese, 1560-1563, 2482, 2517, 3578

Tomato—nutrition (*continued*)—
manuring, 535, 551, 993, 2515, 3070, 3563, 3565, 3573-3575
minor elements, various, 3062
molybdenum, 549, 1560, 2518, 3578
nitrogen, 539-541, 549, 1060, 1065, 1084b, 1423, 1424, 1557, 1558, 2062, 2511, 3202, 3566, 3579, 3581
phosphorus, 19, 532, 539, 1060, 1559, 2056, 2515, 2556r, 3062, 3489, 3579, 3581
potassium, 539, 542, 1060, 1563, 2056, 3581
rubidium, 2056
sodium, 538, 1563
soil organic matter affects, 1563
strontium, 405, 1563
sucrose, 541, 544
sulphur, 2519
zinc, 1560, 2515
pests—
aphids, 1578
beetle (*Vesperus strepens*), 2556f
fruitworm (*Heliothis zea*), 1582
mites, russet (*Phyllocoptes* (*Vasates*) spp.), 1577, 2548
mites, spider (*Tetranychus* spp.), 3602
nematodes, 576v, 1575, 1576, 2545-2547, 2557d, 3599-3601
tobacco white fly (*Bemisia tabaci*), 1581
vinegar fly (*Drosophila* spp.), 568, 1579, 1580
physiology—*see also below*, storage—
enzyme activity, 532, 2536
light responses, 25, 399-401, 525-527, 571, 1027, 1204, 1419, 1561, 1991, 2500, 3041, 3045, 3555, 3586
nicotine and nornicotine synthesis, 3628
photosynthesis, 403, 527, 1027, 2556r
pigment synthesis, 3558, 3605o
respiration, fruit, 1554, 3171, 3582
temperature responses, 401, 524, 525, 552, 571, 1549-1551, 2056, 2504, 2556z, 3566, 3586
tissue culture, 1051, 2088m
water relations, 552, 553, 1431, 1564, 1565, 2454, 2497, 2498, 3043, 3579
planting—
pricking out, 3564
spacing, 2510, 3573
starter solutions, 551, 3565, 3574
time of, 522
pollination—
artificial methods, 518, 528, 1553, 1991, 2500, 2505
natural cross-, 3605e
with old pollen, 2501
pollen germination, 2502
processing—*see also below*, varieties—
bottling, 3209
economics, 1586g
freezing, 1416
pruning, 2509, 2510
research, sampling for, 3554

Tomato (*continued*)—
research in various countries, 1983, 4016
rogues—*see above*, mutants
root(s)—
culture of excised—*see above under* physiology, tissue culture
growth, 569, 1043, 1051, 2383
rhizosphere, azotobacter inoculation, 2511
systems, split, to study flooding effects, 594
systems, water transfer between intertwined, 3043
as a rootstock for eggplant, 1555, 1556
as a rootstock for tobacco, 1593, 3628
rootstocks—
Lycopersicum spp. and varieties, 594, 2537
Nicotiana spp., 1593, 3628
Solanum spp., 2528
seed—
embryo development, 2501
pleicotyly, 1546
production, 518, 576 l, 3553
storage, 993
treatments, 555, 576a, 1420, 1545, 1568, 2525, 3420, 3562
seedlings—*see also above*, planting—
artificial light for—*see above under* physiology, light responses
pots or blocks for—*see also above*, growing, ring culture—2386, 3563
raising of, 419, 1420, 2402, 3565
size at transplanting, 3601
soil—
aeration, 536
amendments and conditioners, 1565, 3575
management—
fumigation and sterilization, 554, 576v, 1561, 1576, 2557d, 3591
irrigation, 397, 550, 551, 1430, 1431, 2065, 3580, 3601
mulching, 1581, 2062, 2513, 2514, 3572
rotations, 535
weed control—*see also above*, herbicides—352, 2379
waterlogging and flooding, 594, 2522
soilless culture, 539, 2496, 2521
spray injuries, 569, 576w, 1440
spray residues, 1376, 3603
staking, 2509
storage—*see also above*, fruit ripening—
dips and coatings, 1183
physiological changes during, 1554, 3571, 3558, 3582, 3605o
wraps, 3596
varieties—*see also above*, hybrids—
Bonita, 3
disease resistant, 513, 566, 2557b, 2557p, 3592
in European countries, 577j, 577 l, 1418, 1585x, 2000, 2557i
Ferguson, 1982
nematode resistant, 1575
New Hampshire Surecrop, 2557p
in North Africa, 513, 514
for processing, 515, 516, 576d

Tomato—varieties (*continued*)—
Pusa Ruby, 1541
Tucker's, 2557b
in the U.S.A., 993, 2556c
X-ray treatment, 3592
Yearbook, American, 512, 3552
Tools—*see also* Apparatus *and* Machines—for—
bark sampling, 2004
cutting strawberry runners, 241c
grafting, 2210, 3219
planting and transplanting, 872, 873
pricking out ferns, 3816k
soil sampling, auger, 3235
Toumeyella liriodendri, 1761
Toxins—
fruit, 1698
pathogen-produced, 1308, 3560, 3577
plant reactions to, 1308
urea counteracts, 3917
Toxoptera aurantii, 1831
Toxoptera piricola, 779
Tractors, 241t, 1240i, 1240j, 1961h, 2926
Trade—
crops—
fibres, 3712e
fruits and nuts, 1984, 2089, 2182a, 3240o, 3240v
plantation, 840, 951y, 2959, 2995p, 3024c
fats and oils, 662, 3712f
Tradescantia fluminensis, 2060
Tradescantia spp., pollen germination, 1084j
Tragopogon dubius, 2344
Training—*see* Pruning
Transpiration—*see also separate plants under* physiology—
evapo-, 67f, 1431, 2066, 2087j, 3614, 3830
factors affecting, 149, 765, 2435, 2454, 2497, 3379
measurement of, 112, 200, 765, 1075, 2905
soil aeration affected by, 3727
stream, velocity of, 1210
Transplanting—*see under* Planting
Transport—*see also* Marketing *and* Packing—
of fruit and vegetables, 2086, 2429, 3174, 3176
of pot plants in nurseries, 2763k
of seed boxes, 2087i
Trees and shrubs—*see also* Conifers, Fruit trees *and individual species*—
antibiotics applied to, 3791
a book on, 1969
broad-leaved evergreen, a handbook on, 1754
climate—
air pollution, 2752
desert, species for, 3815r
growth responses to, 2751
winter hardiness and injury, 742 l, 743c
winter protection by plastic coatings, 1754
destruction by herbicides, etc., 358, 387, 905, 1377, 1999, 2004, 2347, 2355-2358, 3163, 3220, 3340, 3343, 3349
diseases, 1782k, 3271
for encouraging birds, 743e
field trials, plot size, 3092
Trees and Shrubs (*continued*)—
flower forcing—*see* Forcing ornamentals
growing in containers, 673
growth rhythms, 1699
leaf chlorophyll changes, 2753
nematocide tolerance, 2685
nutrition, 3792, 3815h
pests, 1761
propagation, 725, 743k, 2749, 3816f
pruning, 4012
research in various countries, 4016
for road verges, 724
root competition with crops, 2623
seed treatment, 3816f
as snow barriers, 3790
soil flooding injury, 3081
in various countries, 743o, 1755, 1969, 3788, 3815j, 3815u, 3816c, 3816e
Trials—*see under* Statistical
Tribolium confusum, 1656
Trichoderma spp., antagonistic to damping-off organisms, 1434
Trichoderma viride, 1825, 2394, 3271
Trichoplusia ni, 429, 430, 3450, 3543
Trichospilus pupivora, 984
Trifolium sp., control, 1387
Trigonella foenum-graecum, 2556y
Trinidad and Tobago, crops, fruit, 744, 3892e, 3997b
Trinidad and Tobago, imp. Coll. trop. Agric., A.R., 4029h
Triphasia trifolia, 753
Triploid plants—*see also* Polyploidy—647, 1805
Tristania spp., propagation, 725
Tropaeolum—*see* Nasturtium
Tropics(al)—
agriculture—
education in, 2993b
mechanization of, 1962
pesticides used in, a symposium, 844
crops—
botany of, 957
diseases, 1868
fruit, classification, 1864
fruit, nutritive value, 3895
glasshouse for physiological research in the, 1866
plant protection in the, 950u
Products Dep., Amsterdam, A.R., 3021
roy. Inst. for the, Amsterdam, A.R., 3024g
weed control in the, 1388
Truffle growing in Italy, 2458, 2459
Tryptophan biosynthesis, 66j
Tulip—*see also under* Bulbs—
antibiotics from, 3712r
bulb composition, 3764
bulb disinfection, 2702
chimaeras, 2762g
diseases, fungus, 2332, 2702, 3720
flower growth, 3763, 3764
forcing, 997, 2729, 3763
fruit formation, growth substances induce, 2677

Tulip (*continued*)—
growing in New Zealand, 2728
growth, abnormal, 2762j
leaf composition, 2730
nutrition, 1724
soil management, weed control, 388, 2362, 3363, 3388
species collection, 3815q
Year Book, R.H.S., 707
Tung (*Aleurites fordii* and *A. montana*)—
climate, rainfall, 832
clones in Nyasaland, 832
composition, leaf, 66c, 834
fruiting, biennial, 832
harvesting, 993
nutrition, manuring and major elements, 832-834, 836, 2825, 2826
nutrition, minor elements, 832, 835, 3891
oil analysis, 837
replanting on old tung soils, 833
research in Nyasaland, 832, 4022
soil management, 832-834, 993
soil waterlogging, 3081
Tunisia, crops, 72, 391, 513, 514
Tunisia, Serv. bot. agron., A.R., 999
Turkey, nut growing, 3240t
Turnip—
composition—
leaf, 499, 577d, 2474, 3532
root, 577g, 3532
sampling for, 3089v
diseases, fungus, 1518
herbicide responses, 1408
nutrition, 544, 1427, 1516, 2474, 3532
pests, 1523, 3533, 3534
temperature responses, 2474
weed control, 388, 3390
Tylenchulus semipenetrans, 1312, 1825, 2806
Tylenchus spp., on tobacco, 3653
Tylophora indica, 2671o
Typhlodromus spp., unspecified, 1323, 2298, 2301

Uganda Dep. Agric., Rec. Invest., 3024k
Ultrasonic irradiation of seeds and plants, 669q, 2399
Ultraviolet light—*see* Light
Umbelliferous crops, weed control in, 1410
Unaspis euonymi, 3722
Unaspis yanonensis, 779, 788, 792, 1784
Uncinula necator—*see* Vine diseases, fungus, powdery mildew
United States—*see also individual States for reports*—
agric. Exp. Stats, A.R., 4029v
agricultural statistics, 3190h
crops—
fruit—
deciduous tree—*see also* Apple *and* Peach *under* growing *and* varieties—2093, 2182 l, 2182r, 2183d, 3095, 3101
evergreen, 1863b, 1863h, 1961f, 2827g, 2828 l, 3101, 3892g
United States—crops—fruit (*continued*)—
small, 2093, 3101
nuts, 3101, 3240o, 3240v
ornamentals, 715
various, 2671 l, 3706
vegetables, 395, 396, 576u, 1415, 1585u, 2556c, 2557 l, 3410, 3604x
Dep. Agric., Secretary Agric., A.R., 2008s
hedges, ornamental, 3816r
horticultural education, 3025
plant introduction service, 2087q
Uranium salts as germination stimulants, 3609
Urea—
absorption through leaf cuticle, 843
biuret an impurity in, 2995q
foliage sprays, 540, 541, 843, 877, 934, 937, 1086, 1465, 1998, 2003, 2154, 3136, 3229, 3899, 3916, 3917, 3940
hydrolysis in plants, 3899
plant diseases affected by, 3916, 3917
soil application, 456, 834, 1932, 2776, 282o, 3970
Urena lobata, 2637
Urginea maritima, 670m
Urocystis cepulae, 2461
Uromyces—
appendiculatus, 464
caryophyllinus, 2687
fabae, 463
phaseoli, 462, 465, 2452
U.S.S.R., crops—
deciduous fruit trees, 181v, 2094, 2183e
nuts, 1239
small fruits, 2094, 2240g
vegetables, 1585r, 2431
Ustilago scitaminea, 2993k
Ustilina zonata, 1880, 2979

Vaccinium spp.—*see also* Blueberry *and* Cranberry—water relations, 1030
Vanilla drying and storage, 670o
Vanilla propagation, 619
Variety—
collections—
deciduous fruits, 181e
evergreen fruits, 838u, 1862d
ornamentals, 742d
tobacco and other *Nicotiana* spp., 1590
tropical crops, 2993s
concept of, 2674
Vaupesia spp., Amazonian, 899
Vegetables—*see also separate crops*—
breeding and selection, 393, 394, 1585c
climate, frost protection, 1418, 3257
composition—
and flavour, 2023
nutrition affects, 422
and nutritional value, 66w, 577d, 2088q, 3412
proteins, 2556y
soil conditioners affect, 1064
vitamins, 845, 1417, 3411, 3996 l

Vegetables (*continued*)—
diseases—
a book on, 3999
damping-off, 2396
general, 576z, 955, 1585f, 3605a, 3605i
drying, 987
economics, 4, 1012, 2381
field trials, design of, 3408
flavour, insecticides affect, 3423
flavours and their estimation, 1439
growing—
books on, 964, 3002
in deserts, 1415
as intercrops for fruit trees, 3146
in urban gardens, 1
in various countries—*see under individual countries*
marketing in various countries, 2084, 3087, 3088
marrow—*see* Marrow
nutrition—
carbon dioxide, 2557e
fertilizer placement, 57, 3418
manuring, 1062, 2054, 3409
packing and grading, 3427
pests—
a book on, 3999
control, general, 3605a
insects, 576z, 1585f, 3424
nematodes, 2396
preservation and processing—*see also above*, drying—2088r, 2398, 3009
quality, 982, 2382
research—*see also* Kvithamar *and* Welles-bourne—a review, 3022
research in various countries, 3409, 4014, 4016, 4017, 4019, 4020
roots, cation exchange capacity of, 66 l
seed—*see also under* Seed—
disinfection, 3421
germination, 3605f
testing, 3413
seedlings, raising of, 1586h
soil management—
conditioners, 1064, 1565, 3604b
cultivation, 57
heating, 1418
irrigation, 1067, 1429, 2064, 2390, 3605k
mulching—*see* Mulching
weed control, 1377, 1397, 1993, 2347, 2396, 3020, 3341, 3389, 3605a
spray residues, 344
transport, 2086
varieties—
conference report on, 3001
for freezing, 2088r
new, lists of, 2556h, 3410
nomenclature, 181g
waxing, 3426
Venezuela, agricultural research, 1004
Venezuela, Shell Serv. for the Fmr, A.R., 998
Venturia inaequalis—see Apple diseases, fungus, scab
Venturia pirina—see Pear diseases, fungus, scab
Veratrum album, 1030
Verbena propagation, 696
Vermiculite, horticultural uses, 1506
Verticillium—
albo-atrum, 1305, 1681, 2544, 2634
dahliae, 1983, 3445
spp., unspecified, 294
Vesperus strepens, 2556f
Vetches as weeds and their control, 1608
Vetiver essential oil from *Vetiveria zizanioides*, 3680
Viburnum spp., breeding, 1783e
Vicia faba—see Beans (*Vicia*)
Vicia villosa, 2052
Vinca spp., pigments, 3815o
Vine—*see also Vitis, and for subjects relating to grapes see below under fruit*—
breeding and selection, 201, 202, 213, 241e, 242f, 1207, 1240t, 2204, 2205, 3215, 3216, 3240a, 3240n, 3240x
climate—
air pollution, 2249
drought resistance, 3215
fruit quality affected by, 199
indicator plants for, 196
meteorological equivalents, 2206
phenology, 2207
light responses, 1211
spring frost injury or protection, 258, 1371f, 2263, 2341n, 3258, 3259
temperature responses, 197-199
winter injury, hardiness and protection, 213, 233, 1216, 1240k, 1371f, 2341v, 3253
composition—
fruit and must, 219, 1205, 1227, 1986, 2240b, 3222
leaf and petiole, 214, 215, 217, 219, 246, 248, 1248, 2215, 2216, 2330
plant, seasonal variations in, 2217
shoot, 215, 219, 1211, 2222, 2263
destruction of unwanted, 3220
diseases—*see also below*, spraying—
cause uncertain, 2254, 2296
fungus—
anthracnose or black spot (*Elsinoë ampelina*), 3294
Aspergillus carbonarius, 346 l
black rot (*Guignardia bidwellii*), 3020
chlorosis (*Fusarium* spp.), 1308
control, general, 3330
Cylindrocarpon radicicola, 1307
downy mildew (*Plasmopara viticola*), 295-299, 342, 346a, 1358, 1371u, 2295, 2326, 2328, 3020, 3216, 3240a, 3289-3292, 3338a, 3338g
excoriosis (*Phoma flaccida*), 2294
grey mould (*Botrytis cinerea*), 303, 1229, 1358, 2283, 2296, 2327, 2328, 2333, 3337b
powdery mildew or oidium (*Uncinula necator*), 300-302, 342, 1310, 1358, 2326, 2327, 3289, 3293, 3338a
Pseudopeziza tracheiphila, 1309, 1358

Vine—diseases—fungus (*continued*)—
white rot (*Coniothyrium diplodiella*), 1306
non-parasitic, chlorosis, 246
non-parasitic, thumb print, 299
virus—
infectious degeneration, court-noué or fan leaf, 270, 271, 1274-1277, 2268, 3337i
nematodes transmit, 1275
Pierce's disease, 272
white emperor, 273
flower biology and morphology, 203-205, 3240x
flower thinning—*see also below*, fruit bunch—235
fruit (grapes)—
bunch thinning, 226
colour, factors affecting, 2328
composition—*see above*, composition
cracking, 2342i
drop, 3222
growth, auxin content in relation to, 3222
packing, 3240j
parthenocarpic, 3225
processing, drying, 2240b, 2240g
quality, factors affecting, 197, 199, 219-221, 223, 224, 228, 229, 297, 342, 1359, 2158
residues, utilization, 10
ripening, 210, 1227, 3234
sampling, 3191
size, factors affecting, 3226, 3231, 3240x
storage, 169, 1183, 1229-1231, 3217, 3240b, 3240w
yields, flower type affects, 205
yields, forecasting, 1228, 2206
girdling—*see below*, ringing
growing—
in Australia, 1240o
in Cyprus, 2008i
in European countries, 196, 201, 232, 241i, 241j, 1240h, 1967, 2218
in the Far East, 2240h, 2241f, 3240f
in Latin America, 241h, 241l, 1347, 2241k
mechanization of, 1240e
in South Africa, 1240l
in the tropics, 3240p
in the U.S.S.R., 2240g
growth—
bud burst, factors affecting, 223, 2221, 3224
dormancy, 1240k
fungicides affect, 2327, 3229
root—*see below*, root
shoot, 2219
substance responses, 1043
wood maturity, 206, 1215
X-rays affect, 202
herbicide injuries, 1374, 1379, 2361, 2380l
leaf—*see also above*, composition—
abscission, 2330
asymmetry, 3218

Vine—leaf (*continued*)—
autumn colouring and browning, 1224, 1248
chlorophyll content, 2329
shape, 205
nutrition—*see also above*, composition—
boron, 221, 1243
cationic equilibrium, 246
cobalt, 220
deficiency symptoms, general, 2215
fertilizer placement, 218
foliar, 220, 221, 346v, 1225, 3136, 3229, 3231
iron, 346v
magnesium, 1248, 4004
manuring, 216, 241y, 1223, 1986, 2214, 3230, 3232, 3234, 4004
minor elements, general, 3240g, 4004
nickel, 3231
nitrogen, 1224, 1424, 2216, 2217, 3136, 3228, 3229
phosphorus, 221, 1225
plant analysis a guide to, 2216, 2217
potassium, 217, 219, 2214, 3228
salt injury and tolerance, 248
zinc, 1226, 1999, 3228
pests—*see also below*, spraying—
Anoplocnemis phasiana, 2309
ants, 320
Celerio livornica, 2319, 3315
cockchafer (*Polyphylla fullo*), 322, 2307
grape berry moth (*Polychrosis* spp.), 1345
green June beetle (*Cotinis nitida*), 2308
leaf folder (*Desmia funeralis*), 3312
Margarodes vitium, 1347
mites (several species), 2301, 2302, 2327, 3299
moth (*Clysia ambiguella*), 1345
nematodes, 212, 1312
phylloxera, 1328, 2327
weevil (*Otiorrhynchus* sp.), 1330
physiology, carbohydrate metabolism, 2222
physiology, water relations, 200, 1144, 1210
planting—
machines, 1219, 2212, 2213
in old vine soils, 2268
spacing, 1221, 3221
pollen grains, abnormal, 3223
pollination, artificial, 1208, 1209
pollination, normal, 205, 1187l
polyploidy induced, 3240n
propagation—*see also below*, rootstocks *and* seed—
by cuttings—
chemical stimulation, 1596
methods, 207, 1214, 3213
root development, 3215
by grafting on cuttings (bench-grafting), 208, 1103, 2210
by grafting, machines for, 2210, 3219
pruning—*see also below*, training—
methods, 221-229, 241n, 241o, 241s, 1222, 1228, 2142, 2219, 2220, 2341v, 3150, 3227, 4012

Vine—pruning (*continued*)—
sex affected by, 203
sheltering workers during, 2223
time of, 2221, 2222
prunings, composting, 10
prunings, shredding, 2224
research in—
Argentina, 2203, 2241k, 3213
New Zealand, 994
various European countries, 1204, 2002, 4016
ringing, 229, 3225, 3226
root(s)—
anatomy, 1240m
growth, 1043, 1212, 2208, 2209, 2219, 3215
systems, 3221
rootstocks—*see also above*, propagation—
destruction of unwanted, 3220
drought resistance, 3215
nematode-resistant, 212
own-rooted plants compared, 1216, 2211
-scion relationships, 210, 214, 1215, 1216
Tetrastigma lanceolarium, 1218
trials, 211, 212
in various European countries, 209, 1217, 1967
seed—
germination, 241x, 1240m
size, fungicides affect, 3330
storage and sowing, 2205
shoot—*see also above*, composition, growth *and* prunings—anatomy, 1211, 1240m, 1277
soil—
management—
cover crops and green manures, 231, 1148, 3232, 3234
cultivation, machines and methods, 241t, 1220, 1240e, 1240i, 1240j, 3221
irrigation, 241p, 2158, 2342i, 3235
methods compared, 3232, 3233
mulching, 2210
weed control—*see also above*, herbicide—227, 357, 359, 1379, 1382, 2361, 3020, 3234, 3354
requirements, 1144, 2218
salinity, bud burst affected by, 3224
spray(ing)—
injuries, 342
machines, 1367, 3337r
residues, 1376, 2308, 3336
supports, tree species for, 2209
training—*see also above*, pruning—228, 230, 231, 233, 234, 241n, 241o, 241z, 242e, 1221, 1240h, 1240r, 2209
trellising, 232, 1213, 2240o
variety(ies)—
Adda Muscat, 242a
Anab-E-Shahi, 1240q
a book on, 1967
Cabernet Franc, 3240d
Clotilde Prosperi, 2241c
Eumelan, 1209
Fiano, 1240u
Vine—variety(ies) (*continued*)—
hybrid direct producers, 241b, 241e, 1206, 1967
Italia, 3217
Kadarka, 205
Merlot, 3240d
Molinara, 241g
Monica, 2240e
Négret de la Canourgue, 2241d
Ohanez, 1208
Ottavianello, 2240k
Pagadebito, 1240d
Pascale di Cagliari, 241d
Raboso, 2240i
Riesling Italico (Wälschriesling), 241f
seedless, 2204
sultana, 223, 241p, 248, 1228, 2221
tetraploid, 1207
Torbato, 2240f
Traminer aromatico, 1240a
in various countries—
Australasia, 3100, 3214
Europe, 961, 1205, 3240c
North Africa, 241u, 241v
the U.S.A., 1967, 2211
the U.S.S.R., 1240g
Waltham Cross, 3227
wood maturity—*see above*, growth
Viola physiology, 1026
Violet—
pests, 742s, 2000
populations, variations in, 1723
varieties, 2000
Virus(es)—*see also hosts*—
bacterial disease susceptibility increased by, 2696
a book on, 1976
cell inclusions, 1655q
composition, mineral, 2615p
concentration, estimation of, 2615c
concentration, photoperiod affects, 3586
control, inactivation or reduction by—
antibiotics, 3492
chemicals, 461, 555, 2266, 2444, 2525, 2552, 2599, 3420, 3649
composting, 3650
enzymes, 2615j
growth substances, 3420
heat—*see also* Sugar-cane setts, treatment—1467, 1833, 2552, 2600, 2688, 2788, 2789
mitochondria, 3645
plant or seed extracts, 1547, 1635
propagation from tip cuttings, 1719, 2688, 2695
soil fumigation, 2268
ultraviolet irradiation, 2552, 3649
X-rays, 617c, 1634
detection by various methods, 347f, 461, 1260, 1829, 2342f, 2641, 2696, 2853, 2946
diseases of rootstock-scion combinations in citrus—*see under* Citrus, diseases, virus
electron microscopy of, 1655r

Virus(es) (*continued*)—
-free fruit clones, selection and maintenance, 3, 1264, 2242, 3020, 3240r
host reactions, 266, 669f, 1567, 1631, 1682, 1831, 3646-3648
host susceptibility, factors affecting, 1371a, 1632, 1633, 3493, 3644, 3977
incubation period, temperature affects, 3586
indicator plants, 346j, 1830
insect, for pest control, 3604p
multiplication, enzymes affect, 2615j
reviews and surveys, deciduous fruits, 1261, 1371o, 3262-3264, 3337y
reviews and surveys, vegetable crops, 1964
spread, plant barriers reduce, 1964, 3587
strains, interactions, 3852
translocation, 2342b, 2342c
transmission—*see also above*, spread, *and below*, vectors—
by dodder, 556
by grafting, 3265
mechanical, 588
between *Rubus* and *Fragaria*, 3267
by seed, 555, 1529, 2525, 3337e
by soil, 268, 1655s
vectors—
aphids—*see* Aphids
grasshoppers, 446, 1720
leafhoppers, 269, 1530
mealy bugs, 858, 1914
mites, 1271
nematodes, 1275
rats, 2948
Vitamin(s)—
A—*see also* Pigments, carotenoids—
content—
factors affecting, 499, 3437
of fruits, 3996 l
of vegetables, 2557u, 3411, 3437, 3524, 3996 l
determination, 3712a
extraction and utilization, 1084k, 2557u
B (complex)—
biosynthesis, 1015
content—
factors affecting, 499, 1479
of fruits, 1797
of vegetables, 1015, 2438, 3481
plant responses to applied, 1049, 1422, 1479, 2772, 3416, 3609
C—
biosynthesis, 1015-1017, 2384
content—
factors affecting, 499, 517, 549, 555, 577c, 1526, 1562, 2098, 2150, 2201, 2238, 2507, 2517, 3168, 3437, 3555, 3556, 3598
of fruits—
and nuts, deciduous tree—*see also* Apple *under* composition—2238, 2239
small, 1190, 2201, 2746
Vitamin(s)—C—content—of fruits (*continued*)—
tropical and subtropical—*see also* Citrus *under* composition—845, 1958, 3991, 3997d
of vegetables, leafy, 577c, 1448, 1526, 1585j, 2384, 3411, 3437
of vegetables, non-leafy—*see also* Tomato composition—517, 2348, 2517, 3411
determination, 3089v
plant responses to applied, 1049, 2772, 3992
E, flowering stimulated by, 3206
E in seeds, 1693
general—
determination, 2618
in fruits and vegetables, 845, 1417, 3412, 3895
in mycorrhizal fungi, 3090i
P in plants and fruits, 1863g
PP, plant responses to applied, 1049
Vitis—
berlandieri, 3213
a new periodical, 4027
romaneti, 241w
spp. hybrids, interspecific, 3240n
Voles—*see under* Rodents
Vossia cuspidata, 666

Wädenswil, eidg. Versuchsanst. Obst-, Wein- u. Gartenb., A.R., 2002
Wagatea spicata, 3712 l
Wageningen Inst. hort. Engng, A.R., 1991
Wales—*see under* Great Britain
Walnut—
breeding and selection, 1236, 2235, 2241g
climate, winter injury and hardiness, 3254
composition, 309, 2238, 2239, 3239
flowering season, 2235
growing in various countries, 1239, 3240t
growth, X-rays affect, 2237
pests, insects, 337, 1335, 2320, 2342j, 3301, 3313
pests, nematodes, 309
physiology, nitrogen metabolism of leaf, 3239
pollination, 2240a
production and trade, 3240o, 3240t
propagation, vegetative, 240, 2002, 2236, 3238
rootstocks, 2231, 2240z
seed treatment, 1238
soil management, mulching, 1238
varieties, 240, 1237, 2092, 2241j
Washington agric. Exp. Stats, A.R., 1003j
Washington St. Coll. Res. Progr. Rep. Hort., 2003
Wasp damage and control, 346x
Water—*see also* Climate, Drought, Flooding *and* Irrigation—
absorption by plants, factors affecting, 149, 3907

Water (*continued*)—
content of plants, factors affecting, 2481, 3820, 3952
culture—*see* Soilless culture
heavy, seed germination affected by, 3080
relations of plants—*see also* Transpiration *and separate plants under* physiology *and/or* soil—
alpines, 1030
cuttings, unrooted, 1718
deciduous fruits and nuts—*see also* Apple *and* Pear—149, 1144, 3148
evergreen fruit and plantation—*see also* Citrus *and* Sugar-cane—1904, 2905, 2916, 3820
methods of studying, 2905
ornamentals, 1718
reviews on, 975, 2087r
small fruits, 3148
tobacco—*see* Tobacco
vegetables—*see also* Tomato—452, 505, 2032, 2033, 2442, 2469, 3379
transfer between plants through adjacent root systems, 42, 3043
Watercress—
diseases, fungus, crook root, 1533, 1534
growing, methods, 1532
growing under plastic, 2490
polyploid, 1534
storage and transport, 987
Water-hyacinth (*Eichhornia crassipes*) control, 1413g, 2354
Water-melon—
breeding and genetics, 445, 3020
broomrape on, 378
climate, frost resistance, 1420
diseases, 445, 446
flowers, abnormal, 1586 l
fruit, parthenocarpy induced, 438, 2557a
growing in Italy, 576p
growth cycle, 2415
mutations, 1586 l
polyploid, 2557a
seed storage, 993
soil management, weed control, 357, 1398
transport, 2429
varieties, 1993, 2411, 2556h
Wattle (*Acacia* spp.)—
nutrition, 3896
pests, 3712q
Res. Inst., Pietermaritzburg, A.R., 2004
Wax coatings—*see also* Storage coatings—for vegetables, 3426
Weed(s)—
control—
conferences, reports of, 348
in crops—*for separate crops see each under* soil management *or* weed—
ornamentals—
bulbs, etc.—*see also* Gladiolus *and* Narcissus—388, 706, 997, 1377, 2362, 2702, 3388
ferns, 2363
herbaceous, 1377, 1397, 3341, 3355
Weeds—control—in crops—ornamentals (*continued*)—
trees and shrubs, 1384, 3341, 3356-3360
perennial tropical and subtropical fruit and plantation crops—*see also* Hevea, Pineapple *and* Sugar-cane—364-366, 371, 844, 993, 998, 1383, 1389-1391, 3367, 3368
small fruits—*see also* Blueberry, Cranberry, Raspberry, Strawberry *and* Vine—997, 2347, 3352, 3353, 3407c
temperate tree fruits—*see also* Apple *and* Pear—1374, 1377, 2359, 2360, 3341, 3352
various—*see also* Tobacco—376, 380, 383, 388, 1398, 3365, 3403-3406
vegetables—*see also* Asparagus, Beans (*Phaseolus*), Beans (*Vicia*), Beetroot, Cabbage, Carrot, Celery, Cucumber, Leek, Lettuce, Melon, Onion, Pea, Spinach *and* Tomato—
cruciferous, 388, 1398, 3387, 3390
general or unspecified—*see* Vegetables
umbelliferous, 375, 1410, 3387
various individual, 357, 993, 1398, 2371, 2377, 3382, 3390, 3401
methods—
biological, 1352, 1413h, 2344, 3403, 3404
chemical—*see* Herbicides
mechanical, 383, 1382, 1401, 3996w
soil fumigation—*see under* Fumigation, soil
various, 356, 361, 1411, 1418, 3337w
of particular types—*see also individual weed species*—
annual and biennial, 1404, 3354
aquatic, 354-356, 390a, 1413g, 2353, 2354, 3346-3348
grasses and sedges—*see also Agropyron repens*, Crabgrass, *Cyperus* spp. *and Sorghum halepense*—350, 356, 357, 359, 367, 1380, 1381, 1392, 1398, 1404, 2368, 3348, 3354, 3357, 3364, 3369, 3407k, 3407n
perennial herbaceous, 1377, 3354
perennial woody—*see* Trees and Shrubs, destruction
reviews on, 390c, 1374
in specific areas—
canal and ditch banks, 356, 390e, 3348
along fences, 357, 2344
gardens, 2364
industrial sites, 355
lawns—*see* Lawn management
nurseries, 1378, 1384, 1385, 3352, 3360
road verges, 1377
seed-beds, 1595, 3406
in various countries, Canada, 1377, 2380g, 2380h
in various countries, tropical and subtropical, 1388, 1389
ecology, trees affect, 2623
of various countries, temperate, 1413f
of various countries, tropical, 2343, 2380c

Weigela—see Diervilla
Wellesbourne nat. Veg. Res. Stat., A.R., 4025
West of Scotland agric. Coll., A.R., 2008t
Western Canad. Soc. Hort., Proc., 4029w
White currant, flower, nectar production, 1128
White grub control, 322, 346o, 3302, 3533
Wilhelminadorp Exp. Stat. Fruit-Growing in the Open, A.R., 1188
Willow growing for baskets, 669m, 670n
Wilting toxins—*see under* Toxins, pathogen-produced
Wind, crop responses and damage, 156, 950x, 1959n, 2264, 3831, 3975
Windbreaks—
  for crops—
    bulbs and corms, 2703
    small fruits, 261
    trees and shrubs, 261, 262, 839f, 996
    vegetables and tobacco, 603, 2391, 3409, 3415
  microclimatic effects, 2391
  trees and plants—
    Caragana arborescens, 3795
    cereals, 3415
    hardy, 263
    vegetables, 3415
  in various countries, 263, 346f, 3261
Wine Bd, Australian, A.R., 2008f
Wine making, a book on, 977
Wireworm control, 613, 1643, 1993, 3533, 3654, 3655
Wisconsin agric. Exp. Stat., A.R., 2008u
Wisteria diseases, 3815f
Witzenhausen, Inst. trop. Agric., 2993b
Wood preservatives, 412, 1203
Woodchucks control, 2680
Woody plants—*see* Trees and shrubs
Wound dressings for trees and shrubs, 2857
Wye College, hop research at, 643, 3712w

Xanthine, root growth affected by, 1051
Xanthium—
  pennsylvanicum, 37
  spp.—
    photoperiodic responses, 24, 35, 1029
    protein synthesis, 3090s
    seed germination, 37
Xanthomonas—
  campestris, 3439
  citri, 1862i
  pelargonii, 3743
  phaseoli, 1486
  pruni, 2274
  vasculorum, 1938
  vesicatoria, 557, 2529, 2553, 3588
Xanthophyll—*see* Pigments
Xiphinema—
  americanum, 3653
  diversicaudatum, 2342q
  spp., virus vectors, 1275
X-rays—
  plant responses, 202, 3592, 3728
X-rays (*continued*)—
  treatment of seeds, 1545
  treatment of pollen, 2762f
  use in breeding, 20, 202, 1545
  virus diseases affected by, 617c, 1634
Xyleborus—
  dispar, 346s
  fornicatus, 943, 3986, 3987
  spp., on cacao, 3914-3916, 3996d, 3997c
Xylose, methylated, in plants, 180

Yearbook(s)—
  Amateur Gardening Annual, 990
  American Tomato, 512, 3552
  British West Indies Sugar Ass., 906
  Commercial Grower, and Diary, 1003a
  Daffodil and Tulip, roy. hort. Soc., 707
  Danish hort. Soc., 3012
  Deutsche Akad. LandwWiss., Berlin, 3024 l
  Food Agric. Statistics, F.A.O., 988, 4029f
  Fruit Annual, 2001
  Horticultural Engineering, Wageningen, 1992
  Lily, roy. hort. Soc., 704
  Mysore agric. Dep., 1997
  Plant Protection Serv., Wageningen, 3024e
  Rhododendron and Camellia, roy. hort. Soc., 1775
  Rose Annual, nat. Rose Soc., G.B., 2736
  South African Sugar, 3958
  Technical Education and Careers in Industry, 1965
Yeasts in fruit, 1160
Yerba maté—*see Ilex paraguariensis*
Yew—*see Taxus*
Yezabura piri, 328
Youngberry, cytology, 3018
Yponomeuta padella malinella, 333
Yttrium, radioactive, 3417
Yugoslavia—
  crops, fruits and nuts, 75, 392, 1205, 2091
  crops, vegetables, 392
  plant protection, 346t
Yunnanea, a new genus, 1775

Zantedeschia spp., breeding, 2763 l
Zanzibar, copra industry, 1959z
Zanzibar Dep. Agric., A.R., 842
Zinc—*see also* Fungicides—
  application, foliar, 1226
  determination, 66c, 2021, 2088e, 2088s, 3892h
  interrelationships with other elements, 760, 2443, 3891
  nutrition—
    cell number of buds affected by, 68
    of crops—
      evergreen fruit and plantation—*see also* Citrus nutrition—832, 893, 903, 1913, 2769, 2870, 3896, 3911
      fruit and nut trees, deciduous—*see also* Apple nutrition—134, 250, 2248, 3891

Zinc—nutrition—of crops (*continued*)—
tobacco, 1617
vegetables, 543, 1560, 2440, 2515
fruit set affected by, 3911
by injection, 3911
plant analysis as a guide to, 3228
radioactive, 1226, 3062
sources, chelates, 763, 1819, 2440
sources, glass frit, 1533
toxicity, 3911
Zingiber officinale—*see* Ginger
Zinnia, light responses, 1702
Zonocerus spp., control, 2859
Zopfia rhizophila, 413
Zoysia spp., as lawn grasses, 709, 742t, 1782q
Zoysia spp., pests, 2731
Zwetsche—*see* Damson
Zygocactus sp. grafted on *Selenicereus* sp., 2762y

List of publications examined in the compilation of Horticultural Abstracts, Vol. 27, 1957, additional to and amending those listed in the index to Vol. 26.

Acta Agraria Fennica, Helsinki [*Acta agrar. fenn.*]
Administration Report of the Madras Agricultural Department, Madras [*Adm. Rep. Madras agric. Dep.*]
Agricultura Técnica en México, Mexico, D.F. [*Agric. téc. México*]
Albrecht-Thaer-Archiv, Berlin [*Albrecht Thaer Arch.*]
Annales de l'Institut Expérimental de Tabac de Bergerac, Bergerac, France [*Ann. Inst. exp. Tabac Bergerac*]
Annual Report of the Coconut Research Board of the Coconut Research Institute, Colombo [*A.R. Coconut Res. Bd Colombo*]
Annual Report Colonial Products Council, London [*A.R. colon. Prod. Coun. Lond.*]
Annual Report on the Department of Agriculture (Central), Federation of Nigeria, Lagos [*A.R. Dep. Agric. Fed. Nigeria*]
Annual Report of the Department of Agriculture, Western Region of Nigeria, Ibadan [*A.R. Dep. Agric. west. Nigeria*]
Annual Report of the Directorate of Agriculture, West Bengal, Alipore [*A.R. Dir. Agric. W. Bengal*]
Annual Report(s) of Divisional and Specialist Officers, Department of Agriculture, Fiji, Suva [*A.Rs div. spec. Officers Dep. Agric. Fiji*]
Annual Report on Meteorology, Department of Agriculture, British Guiana, Georgetown [*A.R. Met. Dep. Agric. Brit. Guiana*]
Annual Report Northern Nut Growers Association (U.S.A.) [*A.R. north. Nutgrs Ass.*]
Annual Report of the Pomological and Fruit Growing Society, Quebec [*A.R. pomol. Fruit Growing Soc. Que.*]
Annual Report Singapore Botanic Gardens Department [*A.R. Singapore bot. Gdns*]
Annual Report of the Sisal Research Station, Mlingani, Tanganyika [*A.R. Sisal Res. Stat. Mlingani*]
Annual Report Western Samoa Department of Agriculture, Fisheries and Forests, Apia [*A.R. west. Samoa Dep. Agric.*]
Anzeiger für Schädlingskunde, Berlin [*Anz. Schädlingsk.*]
Årsskrift Norsk Planteskolelag, Oslo [*Årsskr. Norsk Planteskol.*]

Biennial Report Director Kansas Agricultural Experiment Station, Manhattan [*Bien. Rep. Kan. agric. Exp. Stat.*]
Boron in Agriculture, London (Formerly Agricultural Literature References to Boron) [*Boron in Agric.*]

Café, Cacao, Thé, Nogent s. Marne, France [*Café, Cacao, Thé*]
Canadian Journal of Plant Science, Ottawa (Formerly part of Canadian Journal of Agricultural Science) [*Canad. J. Plant Sci.*]
Canadian Journal of Soil Science, Ottawa (Formerly part of Canadian Journal of Agricultural Science) [*Canad. J. Soil Sci.*]
Cenicafé, Chinchina-Caldas, Colombia (Formerly Boletin Informativo, etc.) [*Cenicafé*]
Coconut Bulletin, Indian Central Coconut Committee, Ernakulam (Formerly Bulletin of the Indian Central Coconut Committee) [*Coconut Bull. Ernakulam*]
CORESTA Information Bulletin, Paris [*CORESTA Inf. Bull.*]

Ensayos Estacion Experimental de Aula Dei, Departamento de Mejora, Zaragoza, Spain [*Ensay. Estac. exp. Aula Dei*]
Experimental Husbandry, Ministry of Agriculture, London [*Exp. Husbandry*]

Ghana Farmer, Accra (Formerly [New] Gold Coast Farmer) [*Ghana Fmr*]

I.C.I. Magazine, London [*I.C.I. Mag.*]

Jaarboek Tuinbouwtechniek, Wageningen [*Jaarb. Tuinbouwtech.*]
Jaarverslag Proefstation voor de Fruitteelt in de Volle Grond, Wilhelminadorp [*Jversl. Proefst. Fruitt. Wilhelminadorp*]
Jahrbuch Deutsche Akademie der Landwirtschaftswissenschaften zu Berlin, Berlin [*Jb. dtsch. Akad. LandwWiss.*]
Journal of the Mississippi Academy of Sciences, State College, Mississippi [*J. Miss. Acad. Sci.*]

Landwirtschaftliches Zentralblatt. Abteilung II. Pflanzliche Produktion, Berlin [*Landw. Zbl. Abt. II. pflanzl. Produkt.*]
Lighter, Ottawa [*Lighter*]

Maatalous ja Koetoiminta, Helsinki [*Maatalous ja Koetim.*]
Macdonald Farm Journal, Montreal [*Macdonald Fm J.*]
Meddelande från Alnarpsinstitutets trädgårdsavdelning, Trädgårdsekonomiska Byrån [*Medd. Alnarpsinst. trädgårdsekon. Byrån*]
Mededeelingen van de Landbouwhoogeschool, Gent, Belgium [*Meded. LandbHoogesch. Gent*]
Melioracja, Wrocław, Poland [*Melioracja*]
Monthly Journal of the Mushroom Growers' Association [U.K.] [*M.G.A. Bull.*]

National Cactus and Succulent Journal (U.K.) [*Nat. Cactu Succ. J.*]
New Gold Coast Farmer, Accra, *see* Ghana Farmer
New Zealand Plants and Gardens. Journal of the Royal New Zealand Institute of Horticulture, Wellington [*N.Z. Plants Gdns*]
Noticias agricolas, Servicio Shell Para el Agricultor, Cagua, Aragua, Venezuela [*Not. agric. Serv. Shell Agric. Venezuela*]

Ohio Farm and Home Research, Wooster [*Ohio Fm Home Res.*]
Outlook on Agriculture, I.C.I. Ltd., Jealotts' Hill, Berks. [*Outlook on Agric.*]

Potassium Symposium, International Potash Institute, Berne [*Potassium Symposium*]
Prace Instytutu Sadownictwa w Skierniewicach, Warsaw [*Prace Inst. Sadown.*]
Prace Zakładu Dendrologii i Pomologii w Kórniku, Kórnik, Poland [*Prace Zakł. dendrol. Kórnik*]
Progress Report N.A.A.S. Experimental Horticulture Stations, London [*Progr. Rep. N.A.A.S. exp. Hort. Stats*]

Referativnyj Žurnal (Biologija), Moscow [Russian] [*Ref. Z. (Biol.)*]
Report of Rosewarne Experimental Horticulture Station, Camborne, Cornwall [*Rep. Rosewarne exp. Hort. Stat.*]
Report Tanganyika Agricultural Corporation, Dar es Salaam [*Rep. Tanga. agric. Corp.*]

LIST OF ADDITIONAL PUBLICATIONS

Revista Agronomica del Noroeste Argentino, San Miguel de Tucumán [*Rev. agron. noroeste Argent.*]
Revista Cafetera de Colombia, Bogotá [*Rev. cafet. Colomb.*]
Revue Internationale des Tabacs, Paris [*Rev. int. Tabacs*]
Rivista Internazionale di Agricoltura, Rome [*Riv. int. Agric.*]
Rubber Board Bulletin, Kottayam, India (Formerly Indian Rubber Board Bulletin) [*Rubb. Bd Bull.*]

Scientific Proceedings. Faculty of Agronomy, Agricultural Academy "George Dimitrov", Sofia [Bulgarian] [*Sci. Proc. agric. Acad. George Dimitrov*]
State Horticultural Association of Pennsylvania News, State College, Pa [*St. hort. Ass. Pa News*]
Suomen Maatoloustieteelisen Seuren Julkaisuja, Helsinki [*Acta agrar. fenn.*]

Valtion Maatalouskoetoiminnan Julkaisuja Helsingfors [*Valt Maatalousk. Julk.*]
Verhandelingen der Konink. Akademie van Wetenschappen Amsterdam [*Verh. Akad. Wet. Amst.*]
Verslag Tuinbouw Proef- en Selectiebedrijf te Middelrode en Proefnemingen van het Rijkstuinbouwconsulentschap te 's-Hertogenbosch, 's-Hertogenbosch [*Versl. Tuinb. Middelrode*]
Vitis. Berichte über Rebenforschung, Geilweilerhof, Germany [*Vitis*]

Worcestershire Agricultural Chronicle, Worcester [*Worc. agric Chron.*]

Zeitschrift für Pflanzenzuchtung, Berlin [*Z. Pflanzenz.*]

PRINTED BY HEADLEY BROTHERS LTD 109 KINGSWAY LONDON WC2 AND ASHFORD KENT